ZUYEV, A.S.; NOVOSELOVA, A.I.; LIKINA, I.V.

Developing methods for the commercial production of O and H diagnostic antigens and their use in the diagnosis of Salmonella infections. Zhur.mikrobiol., epidem. i immun. 27 no.3:42-49 Mr' 56. (MIRA 9:7)

1. Is Leningradskogo instituta vaktsin i syvorotok.
(SALMONELLA INFECTIONS, diagnosis,
serol., prep. of antigens (Rus))
(ANTIGENS AND ANTIBODIES,
antigen prod. for diag. of Salmonella infect. (Rus))

NOVOSELOVA, A.I.

Giant cell tumor of the distal part of the fibula. Vest.khir. 77 no.6:136-138 Je '56. (MLRA 9:8)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta protezirovaniya (dir. - prof. F.A.Kopylov) Leningrad, Borovaya ul., d. 78, kv. 11.
(FIBULA, neoplasms,
giant cell tumor (Rus))
(GIANT CELL TUMORS,
fibula (Rus))

NOVOSELOVA, A.I., vrach

Application of prostheses in congenital absence of arms.
Protez. i protezostr. no.10:143-145 '64.
(MIRA 18:12)

1. Leningradskiy nauchno-issledovatel'skiy institut protezirovaniya.

NOVOSELOVA, A. N., SUKHORUKOV, K. T.

"On the Physiology of 'Black' [black rot?], Byul Glav Botan Sad, (Bulletin of the Main Botanical Garden), 1950, Issue 6.

Mikrobiologiya, Vol XX, No. 5, 1951 [redacted]-W-24635

1. SUKHORUKOV, K. T. and NOVOSELOVA, A. N.

2. USSR (600)

4. Botany - Physiology

7. Peculiarities of the transformation of nitrogenous substances in old organs of a plant. Biul.Glav.bot.sada no. 13, 1952.

9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

1403 Izucheniye sposobnosti nekotorykh sortov yarovoy pshenitsy perenosit' Obezvozhivaniye I peregrev dlya diagnostirovaniya ikh zasukhoustoychivosti. M., 1954. 16 s. 20 sm. (In-t Fiziologii Rasteniy im. K. A. Timiryazeva Akad. Nauk SSSR). 11 0 Eks Bespl-(54-52907)

SO: Knizhaya Letopis', Vol. 1, 1955

NOVOSELOVA, A. N.

"Investigation of the Capacity of Certain Varieties of Spring Wheat to Endure Dehydration and Overheating in Evaluating Drought-Resistance." Cand Biol Sci, Inst of Plant Physiology imeni Timiryazev, 20 Dec 54. (VM, 21 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

NOVOSELOVA, N.N.

GENKEL', P.A.; NOVOSELOVA, A.N.

Analysis of the drought resistance of spring wheat. Fiziol.rast. 2 no.3:199-208 My-Je '55. (MLRA 8:11)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow.
(Wheat--Water requirements)

BLINKOV, G.M.; NOVOSELOVA, A.N.

Azotobacter in the Podzolic soils of Siberia. Mikrobiologiia 28 no.6:911-915 N-D '59. (MIRA 13:4)

1. Tomskiy gosudarstvennyy pedagogicheskiy institut.
(SOIL microbiol.)
(AZOTOBACTER)

NOVOSELOVA, A.S., kand. sel'skokhoz. nauk

Intervarietal and intravarietal free transpollination in red clover. Agrobiologia 5:714-718 S-O '64. (MIRA 17:11)

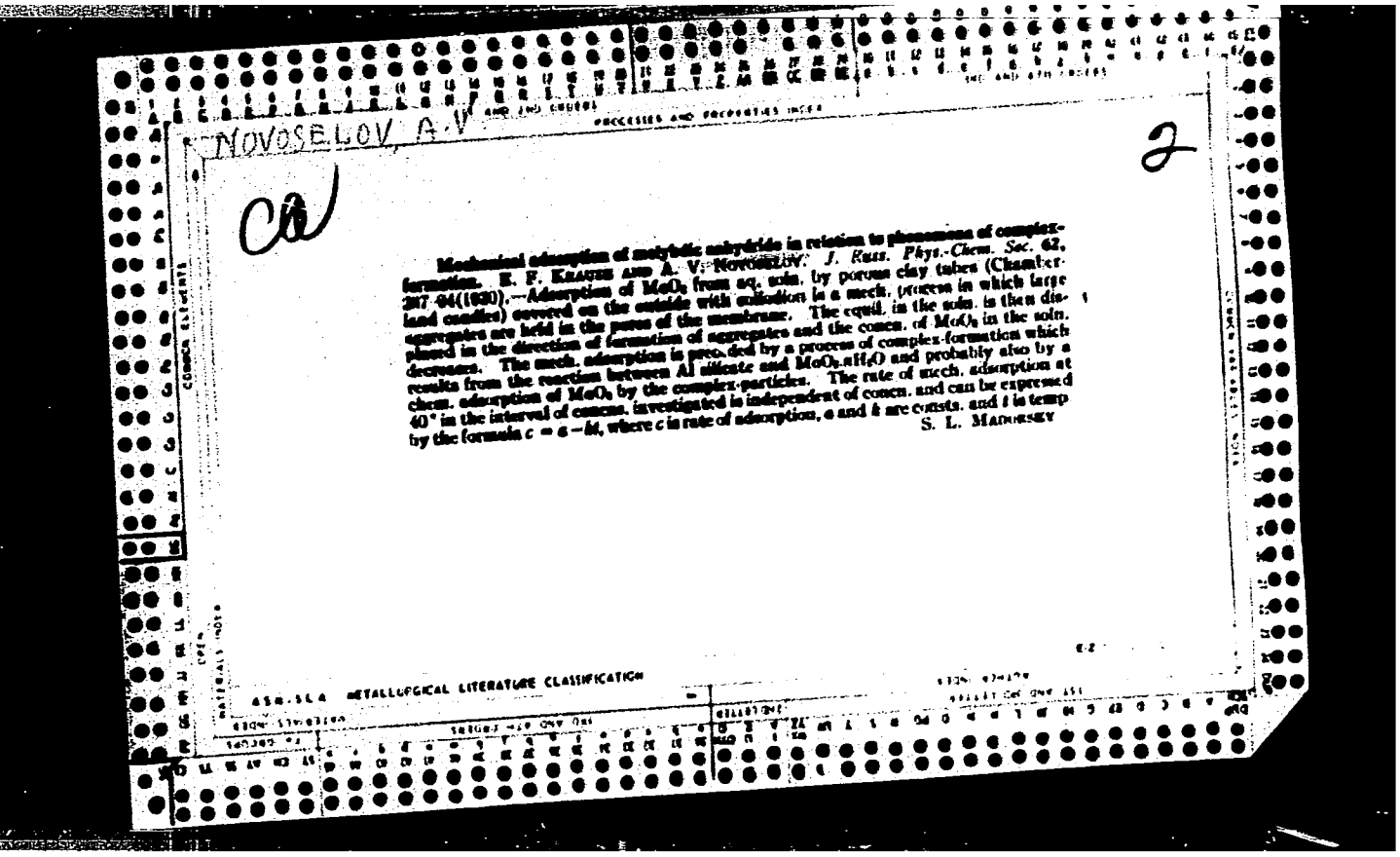
1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov, stantsiya Lugovaya, Moskovskoy oblasti.

NOVOSELOVA, A.S. --

"Intervariety Crossings of Buchwheat." Cand Agr Sci, Moscow Agricultural Acad imeni Timiryazeva, Moscow, 1953. (RZhBiol, No 2, Sep 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum. No. 481, 5 May 55



NOVOSELOV, A.V

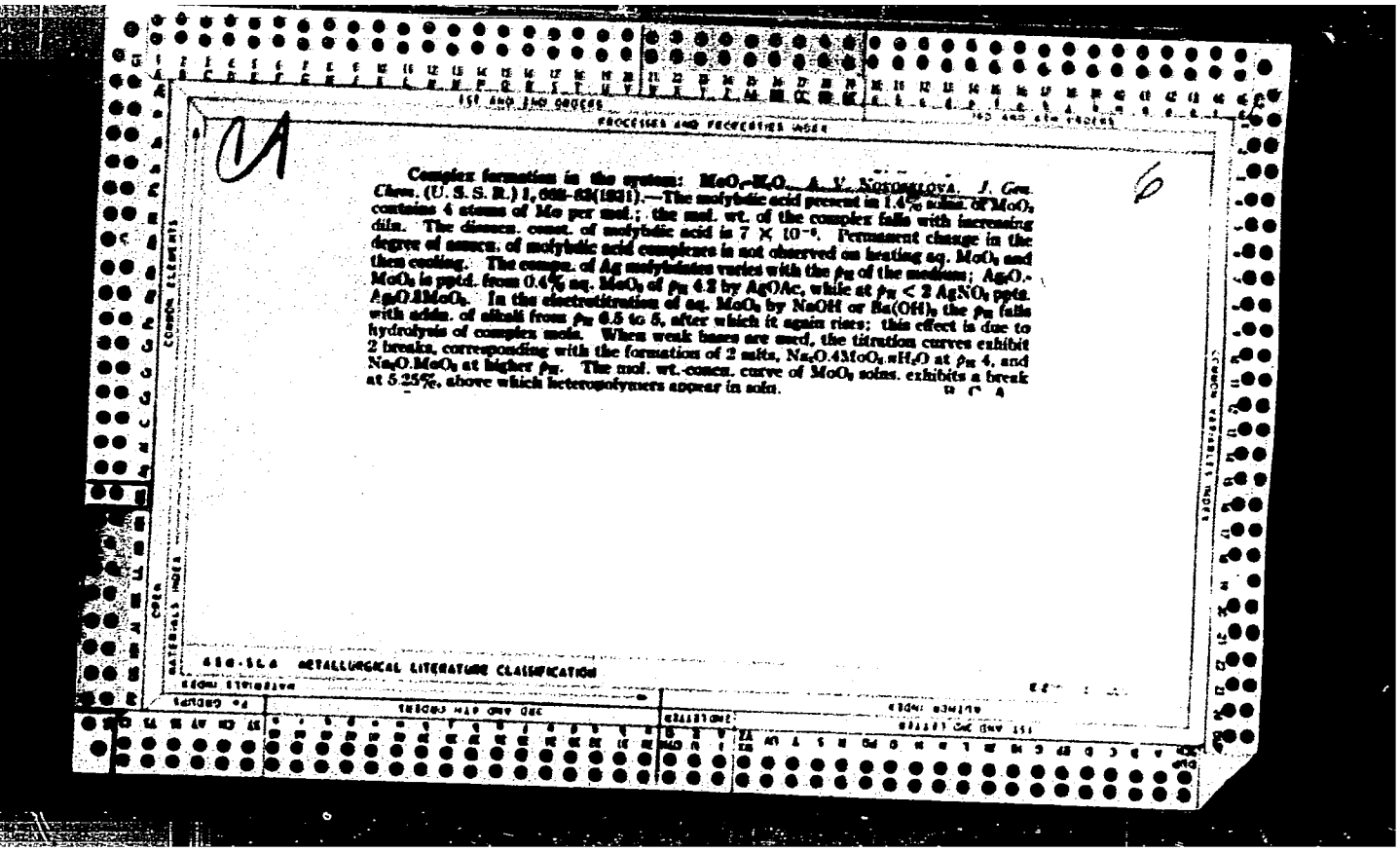
2

Ca

Mechanical adsorption of molybdic anhydride in relation to phenomena of complex-formation. E. F. Krauss and A. V. Novoselov. *J. Russ. Phys.-Chem. Soc.* 62, 287-94(1930).—Adsorption of MoO_3 from aq. soln. by porous clay tubes (Chamberland candles) covered on the outside with collodion is a mech. process in which large aggregates are held in the pores of the membrane. The equil. in the soln. in them displaced in the direction of formation of aggregates and the concn. of MoO_3 in the soln. decreases. The mech. adsorption is preceded by a process of complex-formation which results from the reaction between Al silicate and $MoO_3.nH_2O$ and probably also by a chem. adsorption of MoO_3 by the complex-particles. The rate of mech. adsorption at 40° in the interval of concns. investigated is independent of concn. and can be expressed by the formula $c = a - kt$, where c is rate of adsorption, a and k are consts. and t is temp.

S. L. Madorsky

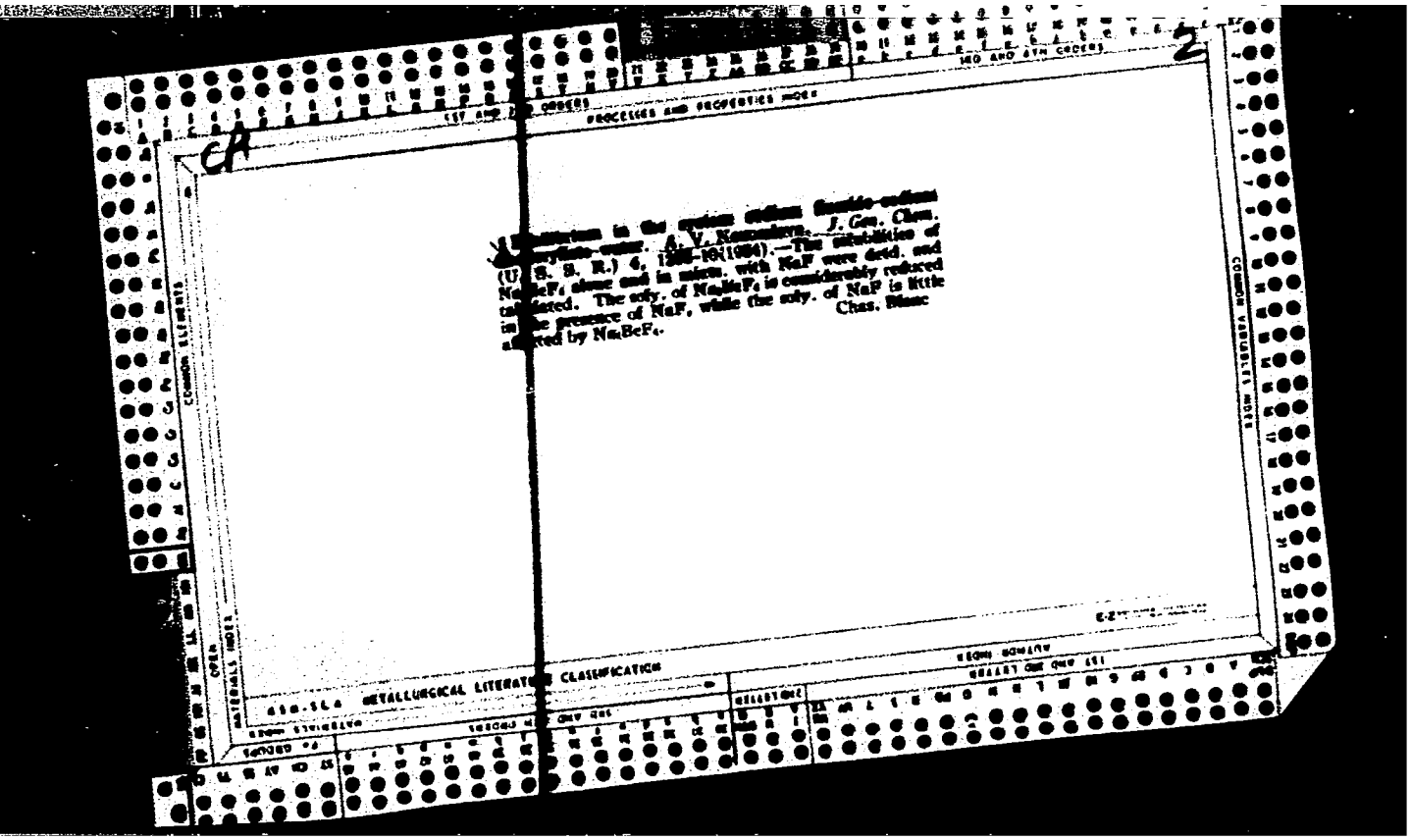
METALLURGICAL LITERATURE CLASSIFICATION



CA

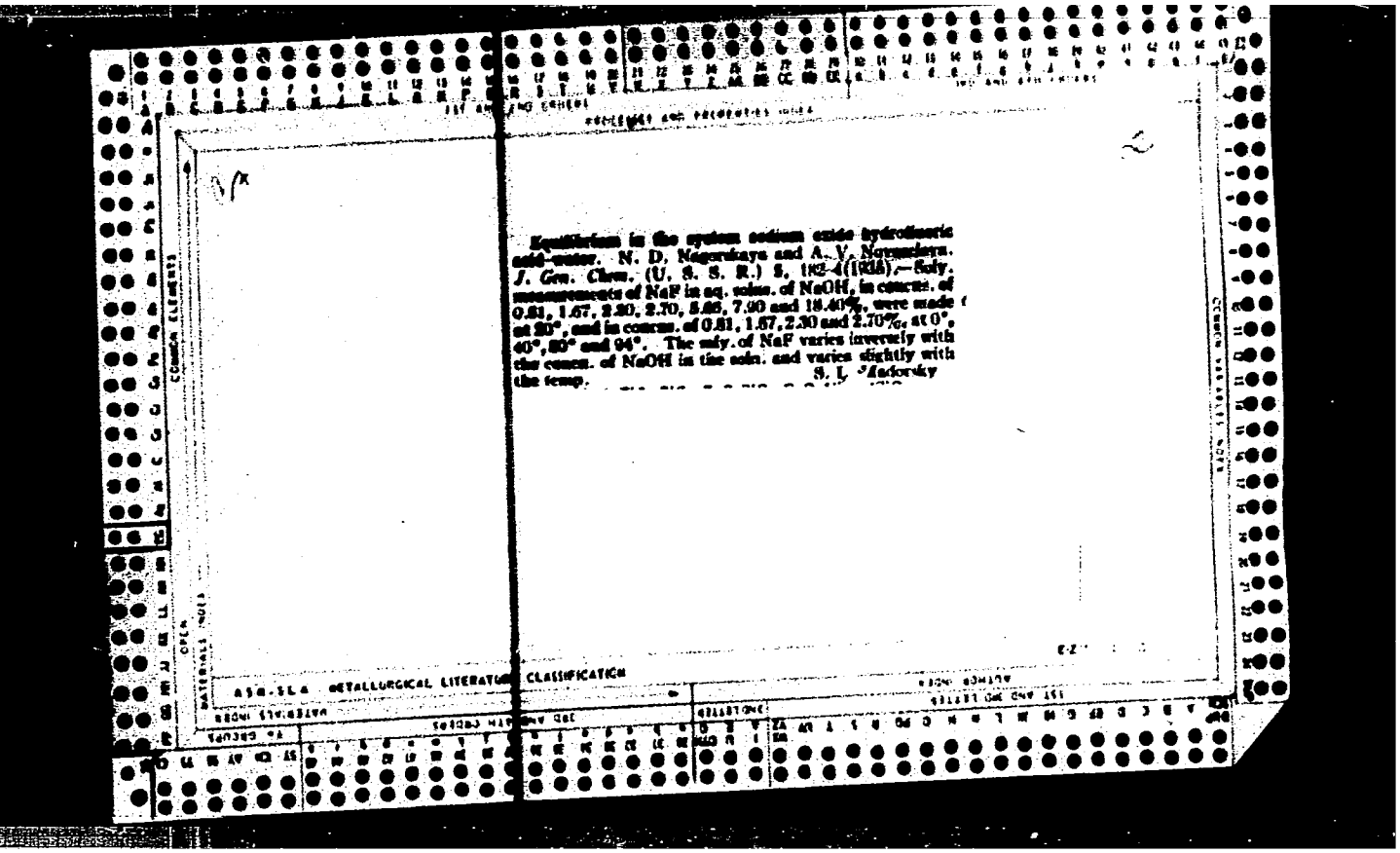
6

Complex formation in the system: MoO_3–H_2O. A. V. Nikolaeva. *J. Gen. Chem.* (U. S. S. R.) 1, 668–83(1931).—The molybdic acid present in 1.4% soln. of MoO_3 contains 4 atoms of Mo per mol.; the mol. wt. of the complex falls with increasing dilu. The dissocn. const. of molybdic acid is 7×10^{-6}. Permanent change in the degree of associn. of molybdic acid complexes is not observed on heating aq. MoO_3 and then cooling. The compn. of Ag molybdates varies with the p_H of the medium; Ag_2O·MoO_3 is ppd. from 0.4% aq. MoO_3 of p_H 4.2 by AgOAc, while at $p_H < 2$ $AgNO_3$ ppts. $Ag_2O.3MoO_3$. In the electrotitration of aq. MoO_3 by NaOH or $Ba(OH)_2$ the p_H falls with addn. of alkali from p_H 6.5 to 5, after which it again rises; this effect is due to hydrolysis of complex molds. When weak bases are used, the titration curves exhibit 2 breaks, corresponding with the formation of 2 salts, $Na_2O.4MoO_3.nH_2O$ at p_H 4, and $Na_2O.MoO_3$ at higher p_H. The mol. wt.-concn. curve of MoO_3 solns. exhibits a break at 5.25%, above which heteropolymers appear in soln.



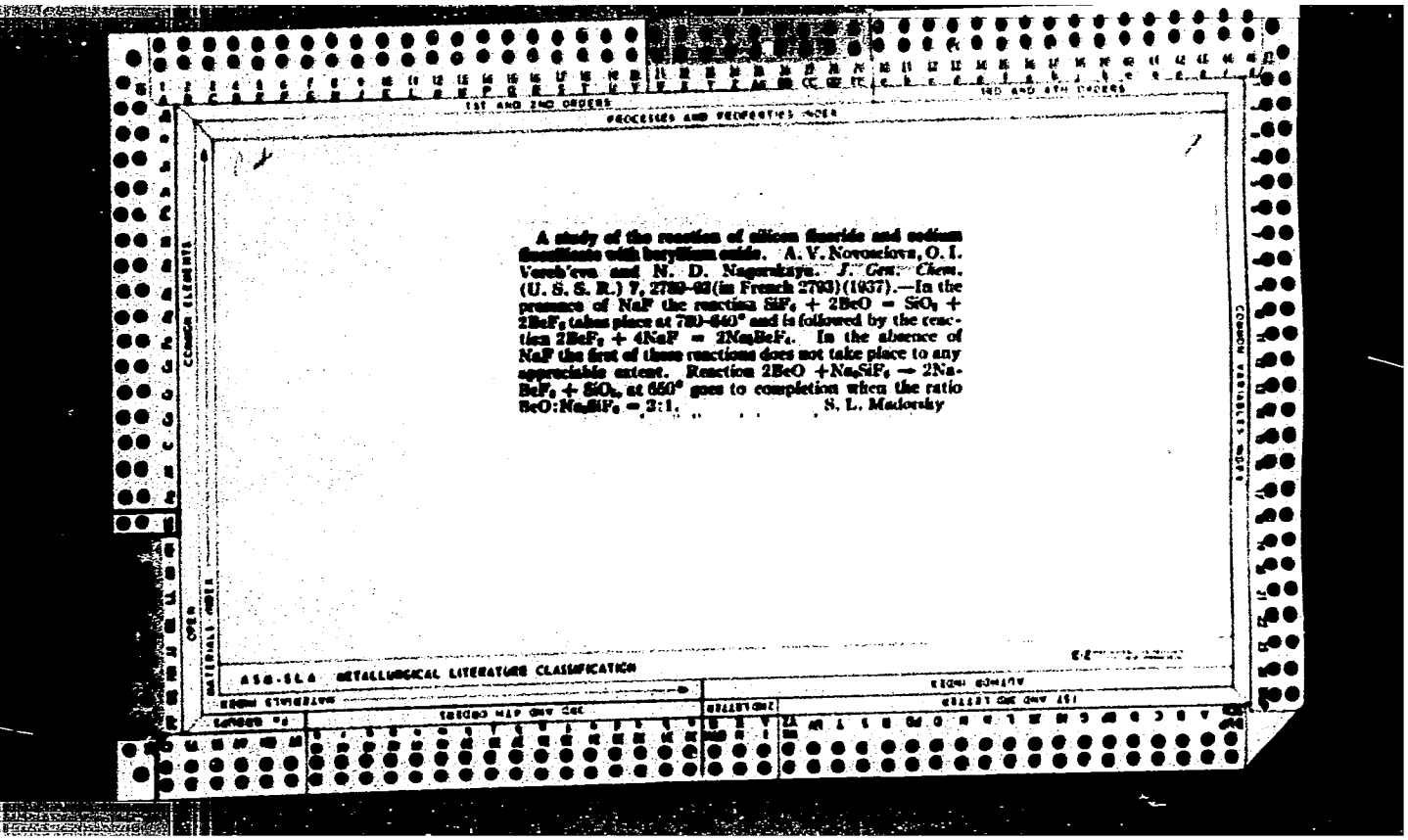
(U) S. S. R.) 6, 1385-10(1964).—The inhibition of NaBeF$_4$ alone and in mixts. with NaF were detd. and calcd. The solv. of Na$_2$BeF$_4$ is considerably reduced in the presence of NaF, while the solv. of NaF is little affected by NaBeF$_4$.

Chas. Blanc

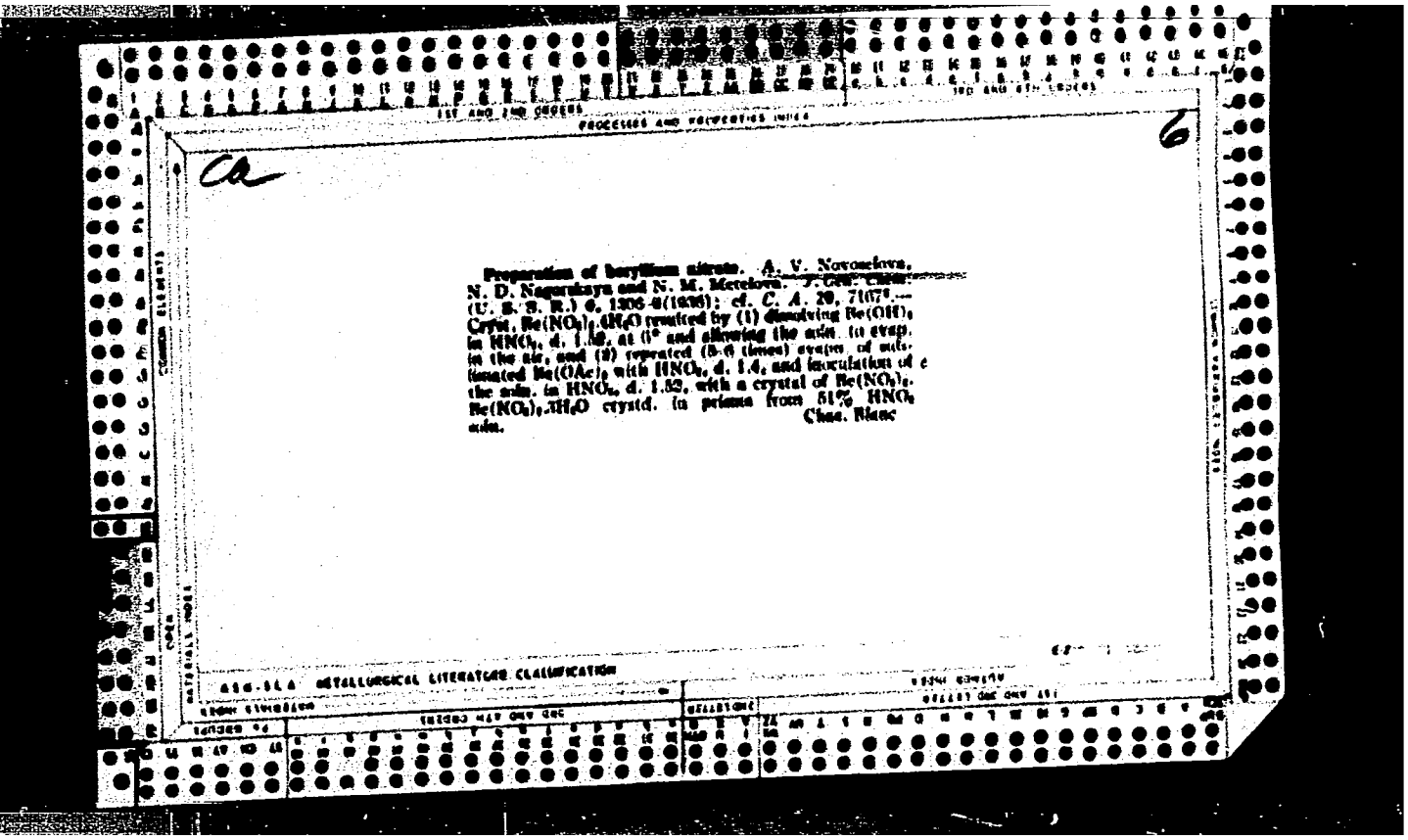


Equilibrium in the system sodium oxide hydrofluoric acid–water. N. D. Nagornaya and A. V. Nagornaya. *J. Gen. Chem.* (U. S. S. R.) 8, 182–4 (1938).—Solv. measurements of NaF in aq. solns. of NaOH, in concns. of 0.81, 1.67, 2.30, 2.70, 5.65, 7.90 and 18.40%, were made at 20°, and in concns. of 0.81, 1.67, 2.30 and 2.70% at 0°, 40°, 80° and 94°. The solv. of NaF varies inversely with the concn. of NaOH in the soln. and varies slightly with the temp.

S. L. Madorsky



A study of the reaction of silicon fluoride and sodium fluosilicate with beryllium oxide. A. V. Novoselova, O. I. Vorob'eva and N. D. Nagornaya. *J. Gen. Chem.* (U. S. S. R.) 7, 2789-93 (in French 2793) (1937).—In the presence of NaF the reaction $SiF_4 + 2BeO = SiO_2 + 2BeF_2$ takes place at 780–840° and is followed by the reaction $2BeF_2 + 4NaF = 2Na_2BeF_4$. In the absence of NaF the first of these reactions does not take place to any appreciable extent. Reaction $2BeO + Na_2SiF_6 = 2NaBeF_3 + SiO_2$ at 650° goes to completion when the ratio $BeO:Na_2SiF_6 = 3:1$. S. L. Madorsky

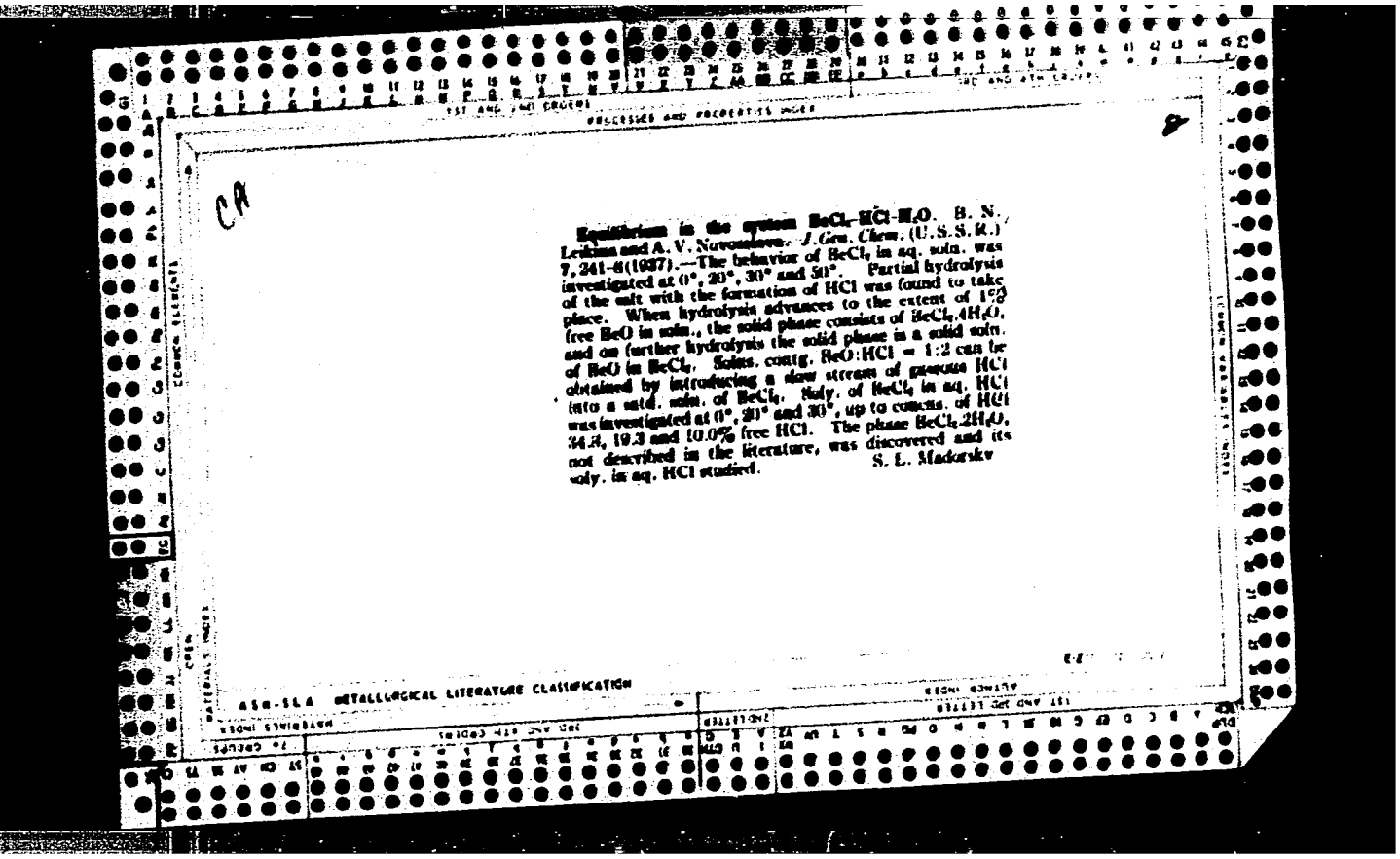


Ca

6

Preparation of beryllium nitrate. A. V. Novoselova, N. D. Nagornaya and N. M. Merelova. *J. Gen. Chem.* (U. S. S. R.) 6, 1306-8(1936); cf. *C. A.* 29, 7107⁸.—Cryst. $Be(NO_3)_2.4H_2O$ resulted by (1) dissolving $Be(OH)_2$ in HNO_3, d. 1.42, at 0° and allowing the soln. to evap. in the air, and (2) repeated (5-6 times) evapn. of satd. soln. of basic $Be(OAc)_2$ with HNO_3, d. 1.4, and inoculation of the soln. in HNO_3, d. 1.52, with a crystal of $Be(NO_3)_2.4H_2O$ cryst'd. in prisms from 51% HNO_3 soln.

Chas. Blanc

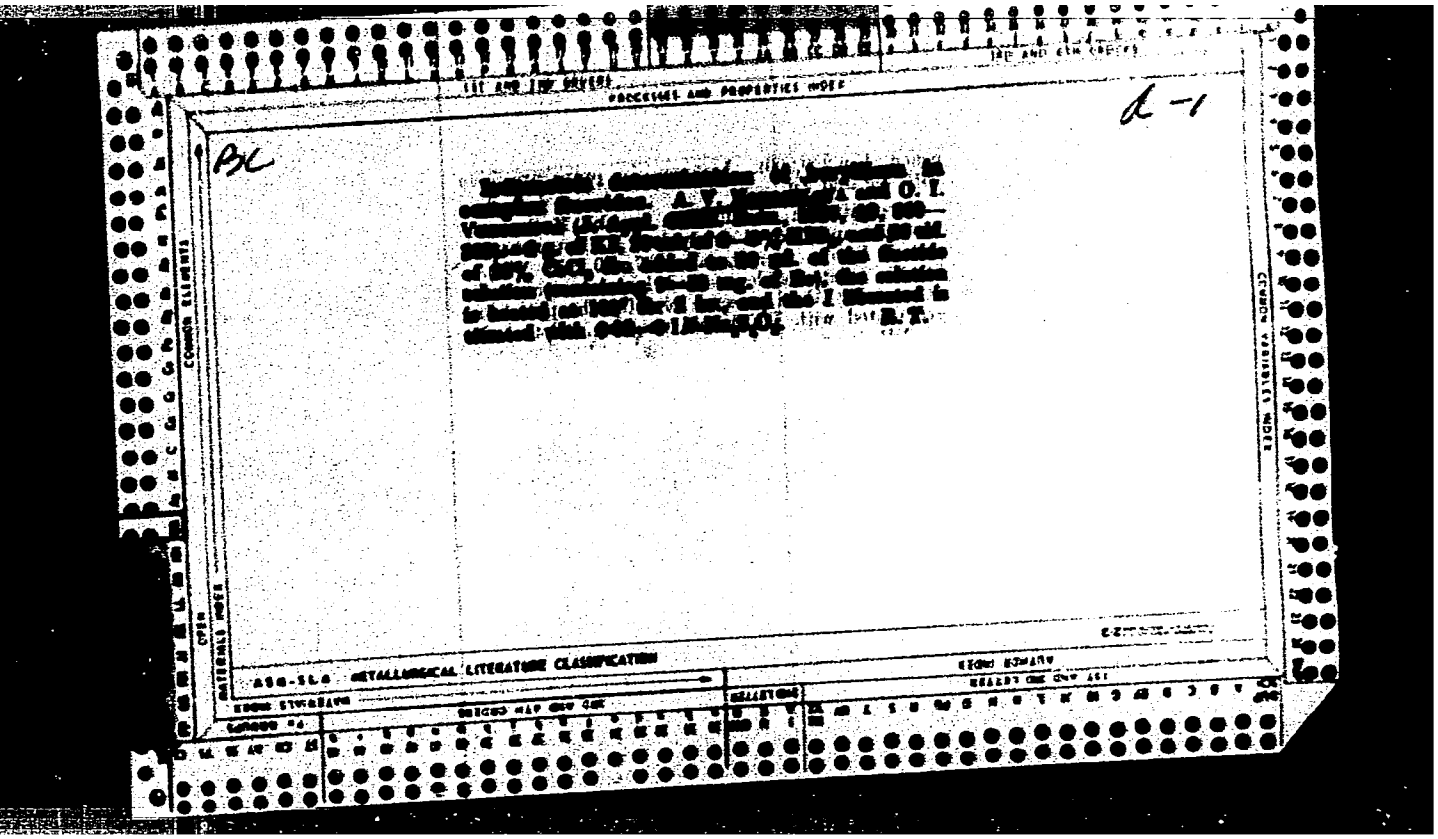


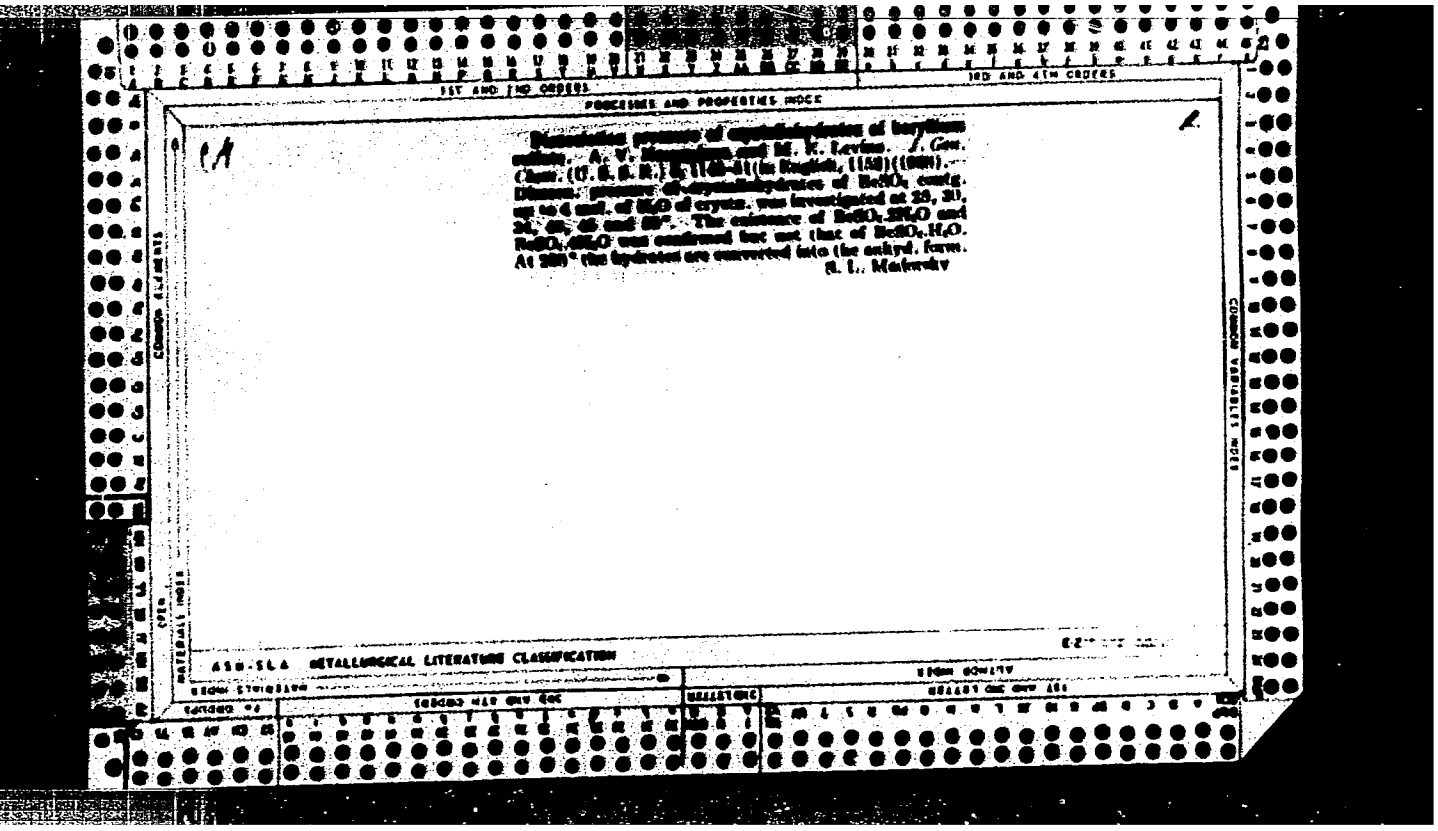
CA

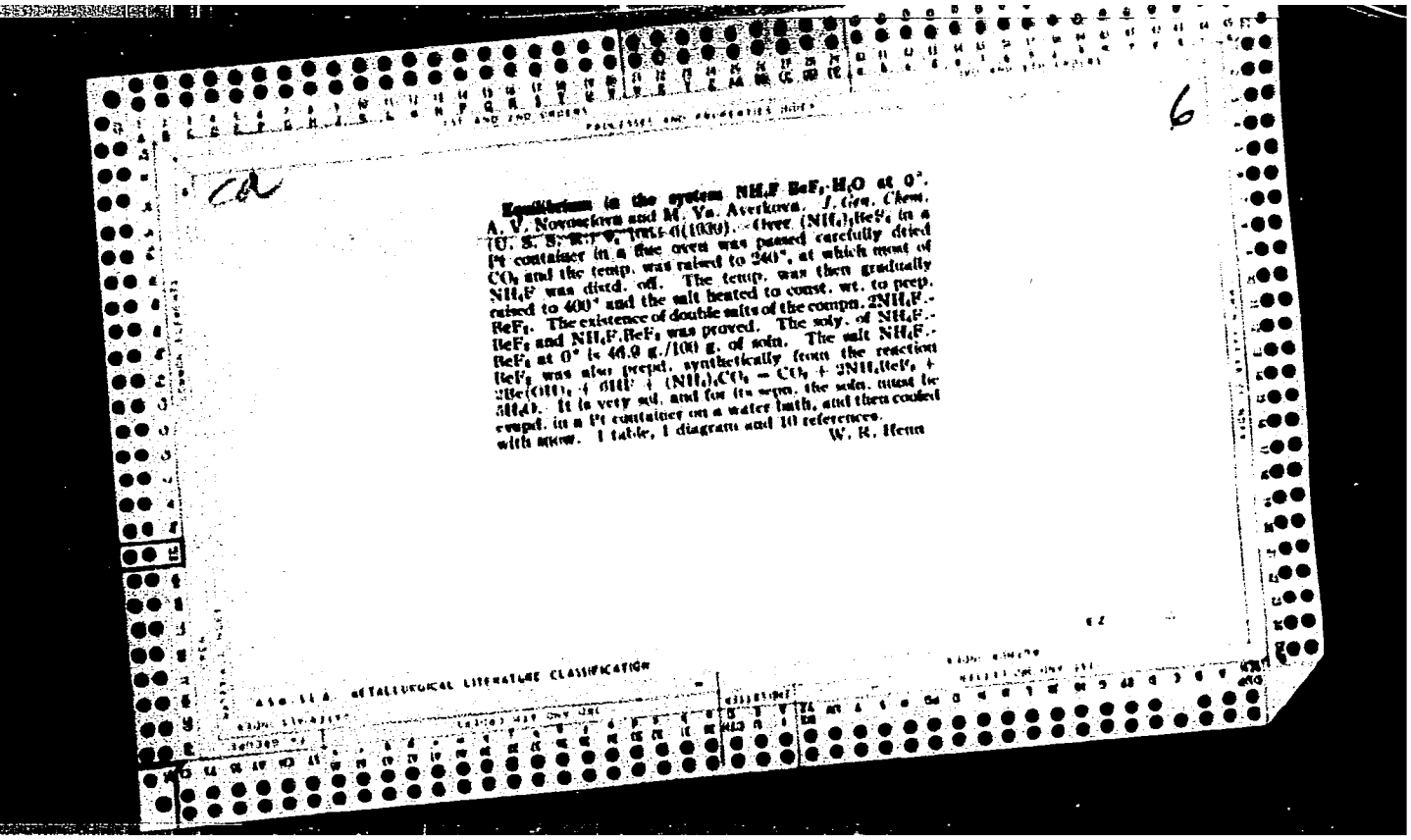
Equilibrium in the system $BeCl_2$-HCl-H_2O. B. N. Leikina and A. V. Novoselova. *J. Gen. Chem.* (U.S.S.R.) 7, 241–6(1937).—The behavior of $BeCl_2$ in aq. soln. was investigated at 0°, 20°, 30° and 50°. Partial hydrolysis of the salt with the formation of HCl was found to take place. When hydrolysis advances to the extent of 1% free BeO in soln., the solid phase consists of $BeCl_2.4H_2O$, and on further hydrolysis the solid phase is a solid soln. of BeO in $BeCl_2$. Solns. contg. BeO:HCl = 1:2 can be obtained by introducing a slow stream of gaseous HCl into a satd. soln. of $BeCl_2$. Solv. of $BeCl_2$ in aq. HCl was investigated at 0°, 20° and 30°, up to concns. of HCl 34.8, 19.3 and 10.0% free HCl. The phase $BeCl_2.2H_2O$, not described in the literature, was discovered and its soly. in aq. HCl studied.

S. L. Madorsky

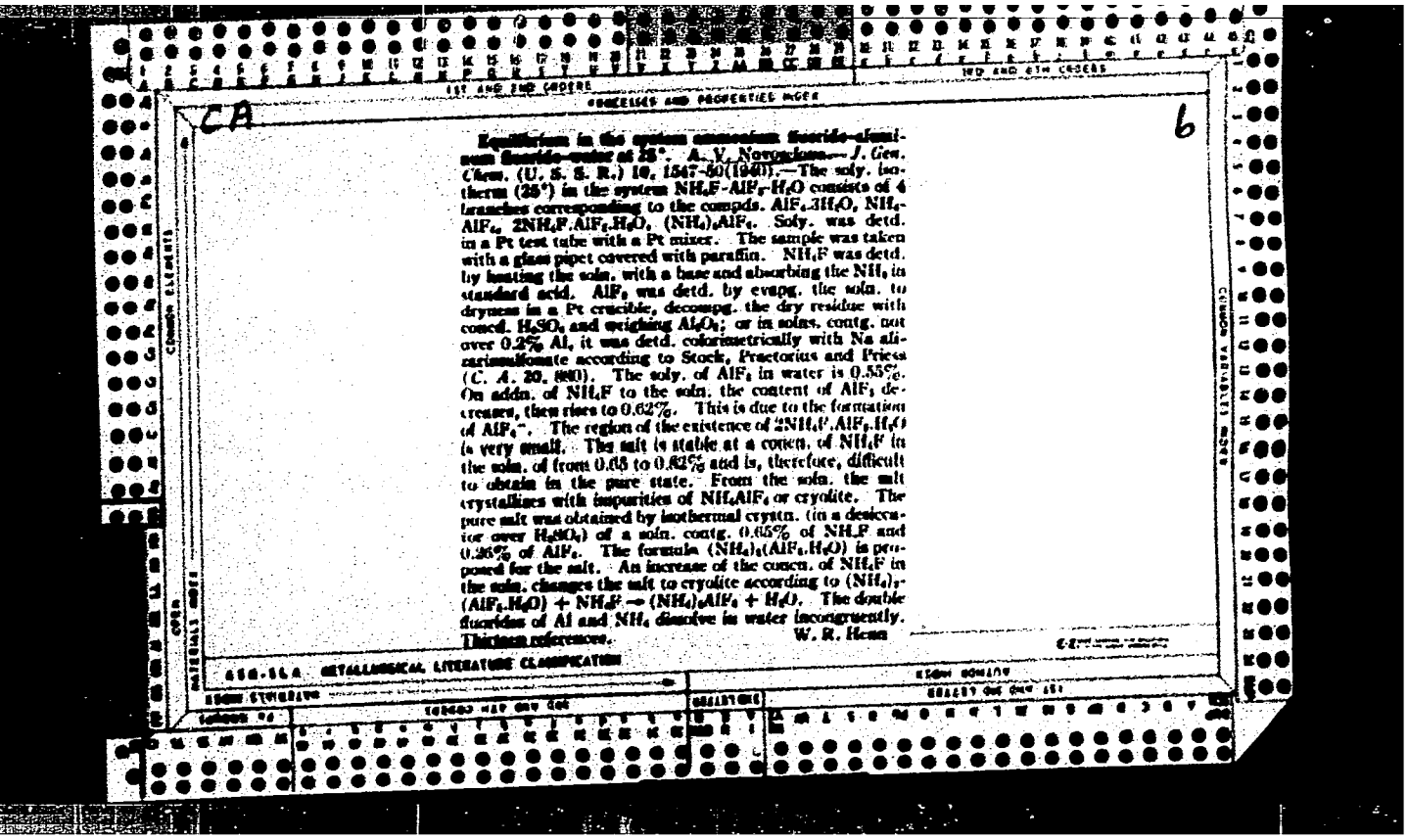
ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION







Equilibrium in the system NH_4F-BeF_2-H_2O at 0°.
A. V. Novoselova and M. Ya. Averkova. *J. Gen. Chem. (U. S. S. R.)* 9, 1011-4 (1939). Three $(NH_4)_2BeF_4$ in a Pt container in a flue oven was passed carefully dried CO_2 and the temp. was raised to 240°, at which most of NH_4F was distd. off. The temp. was then gradually raised to 400° and the salt heated to const. wt. to prep. BeF_2. The existence of double salts of the compn. $2NH_4F$-BeF_2 and $NH_4F.BeF_2$ was proved. The soly. of NH_4F-BeF_2 at 0° is 46.9 g./100 g. of soln. The salt NH_4F-BeF_2 was also prepd. synthetically from the reaction $2Be(OH)_2 + 6HF + (NH_4)_2CO_3 = CO_2 + 2NH_4BeF_4 + 5H_2O$. It is very sol. and for its sepn. the soln. must be evapd. in a Pt container on a water bath, and then cooled with snow. 1 table, 1 diagram and 10 references.
W. R. Henn

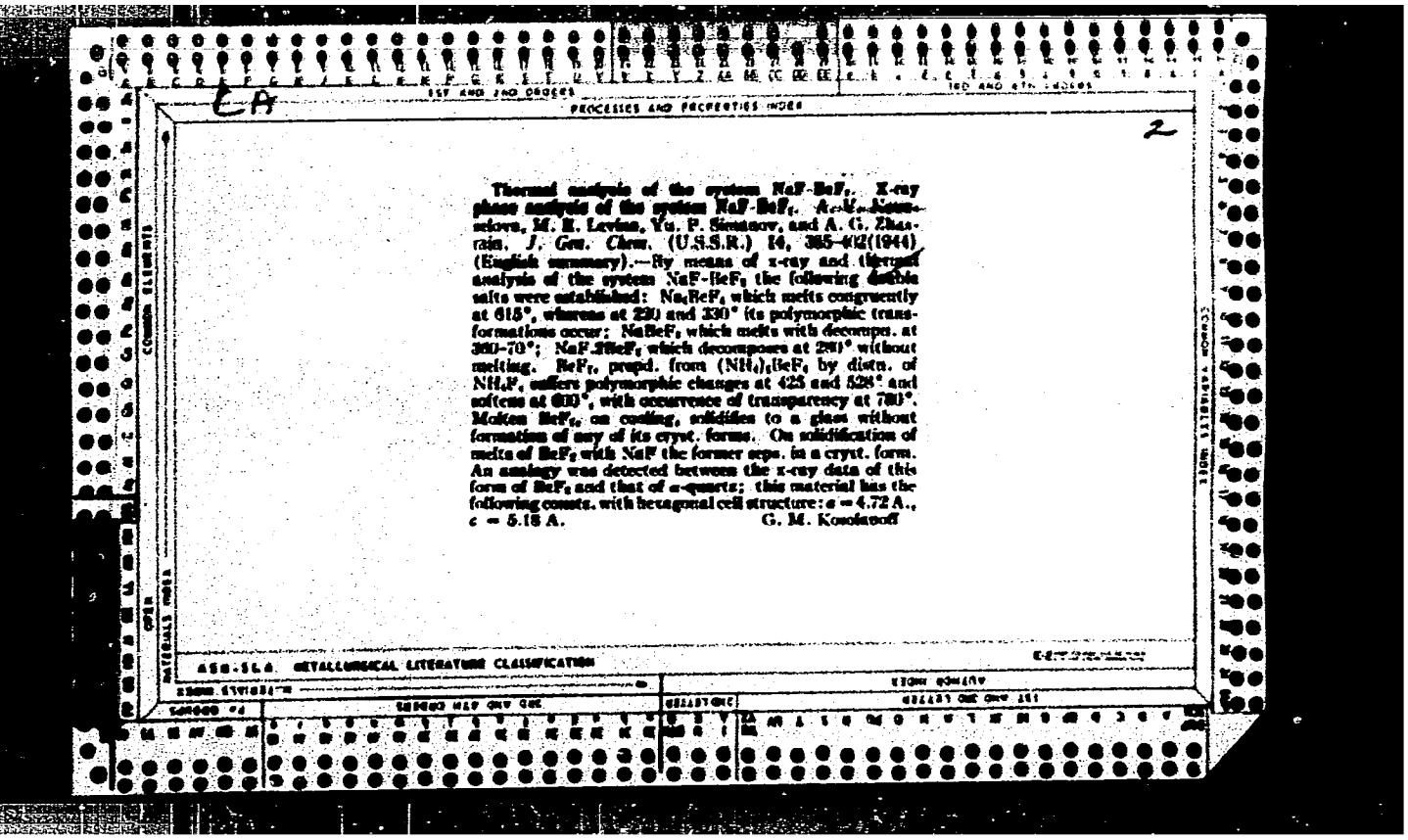


CA

6

Equilibrium in the system ammonium fluoride-aluminum fluoride-water at 25°. A. V. Novoselova.—*J. Gen. Chem.* (U. S. S. R.) 10, 1547-50(1940).—The soly. isotherm (25°) in the system NH_4F-AlF_3-H_2O consists of 4 branches corresponding to the compds. $AlF_3.3H_2O$, NH_4AlF_4, $2NH_4F.AlF_3.H_2O$, $(NH_4)_3AlF_6$. Soly. was detd. in a Pt test tube with a Pt mixer. The sample was taken with a glass pipet covered with paraffin. NH_4F was detd. by heating the soln. with a base and absorbing the NH_3 in standard acid. AlF_3 was detd. by evapg. the soln. to dryness in a Pt crucible, decompg. the dry residue with concd. H_2SO_4 and weighing Al_2O_3; or in solns. contg. not over 0.2% Al, it was detd. colorimetrically with Na alizarinsulfonate according to Stock, Praetorius and Priess (*C. A.* 20, 880). The soly. of AlF_3 in water is 0.55%. On addn. of NH_4F to the soln. the content of AlF_3 decreases, then rises to 0.62%. This is due to the formation of AlF_6^{---}. The region of the existence of $2NH_4F.AlF_3.H_2O$ is very small. The salt is stable at a concn. of NH_4F in the soln. of from 0.05 to 0.82% and is, therefore, difficult to obtain in the pure state. From the soln. the salt crystallizes with impurities of NH_4AlF_4 or cryolite. The pure salt was obtained by isothermal crystn. (in a desiccator over H_2SO_4) of a soln. contg. 0.65% of NH_4F and 0.36% of AlF_3. The formula $(NH_4)_3(AlF_3.H_2O)$ is proposed for the salt. An increase of the concn. of NH_4F in the soln. changes the salt to cryolite according to $(NH_4)_3(AlF_3.H_2O) + NH_4F \rightarrow (NH_4)_3AlF_6 + H_2O$. The double fluorides of Al and NH_4 dissolve in water incongruently. Thirteen references.

W. R. Henn



PROCESSES AND PROPERTIES INDEX

2

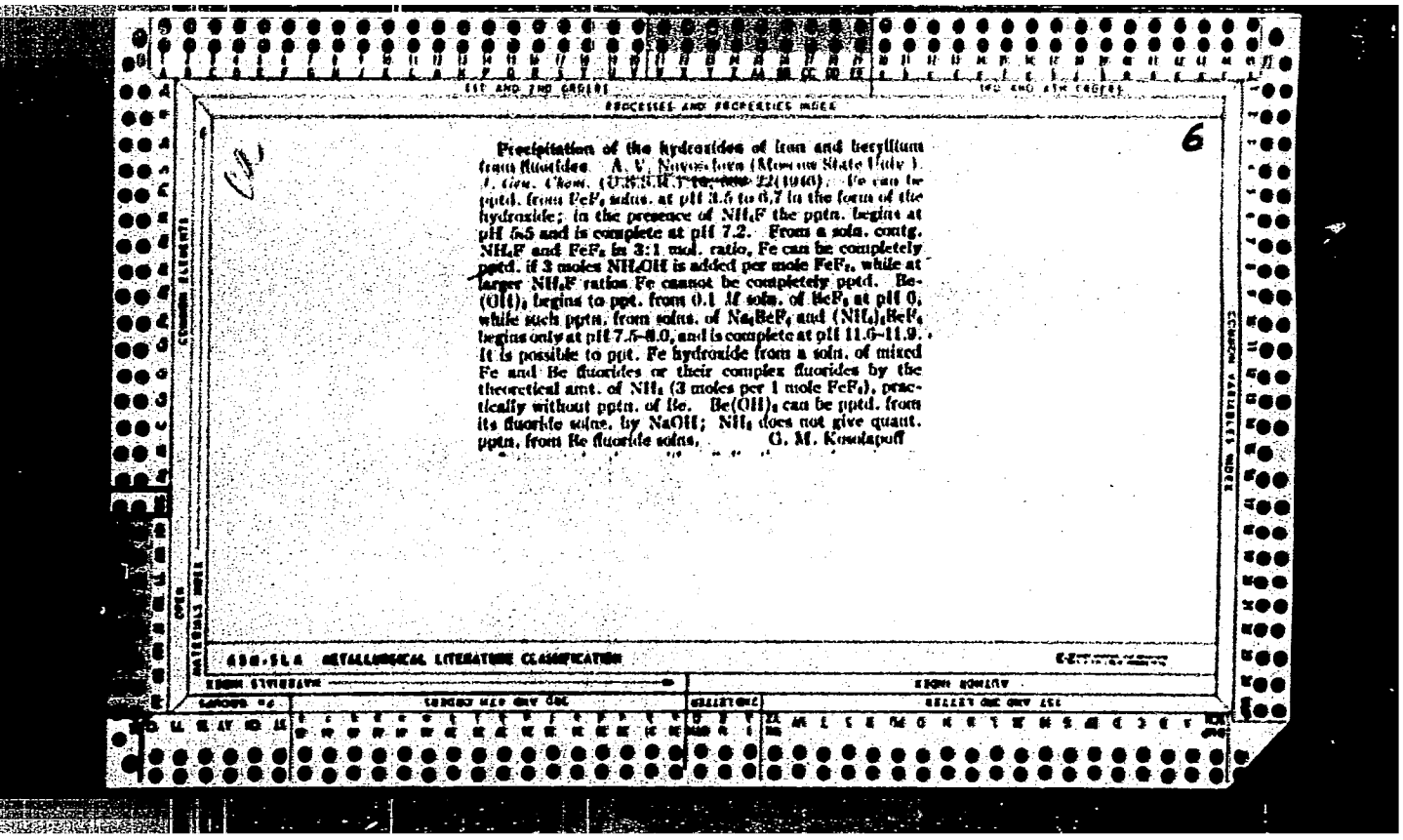
Thermal analysis of the system NaF-BeF_2. X-ray phase analysis of the system NaF-BeF_2. A. G. Bergman, M. E. Levina, Yu. P. Simanov, and A. G. Zhazzin. *J. Gen. Chem.* (U.S.S.R.) 14, 385–402(1944) (English summary).—By means of x-ray and thermal analysis of the system NaF-BeF_2 the following double salts were established: Na_2BeF_4 which melts congruently at 615°, whereas at 220 and 330° its polymorphic transformations occur; $NaBeF_3$, which melts with decompn. at 300–70°; $NaF \cdot 2BeF_2$, which decomposes at 280° without melting. BeF_2, prepd. from $(NH_4)_2BeF_4$ by distn. of NH_4F, suffers polymorphic changes at 425 and 528° and softens at 800°, with occurrence of transparency at 780°. Molten BeF_2, on cooling, solidifies to a glass without formation of any of its cryst. forms. On solidification of melts of BeF_2 with NaF the former sepn. in a cryst. form. An analogy was detected between the x-ray data of this form of BeF_2 and that of α-quartz; this material has the following consts. with hexagonal cell structure: $a = 4.72$ A., $c = 5.18$ A. G. M. Kosolapoff

ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION

NOVOSELOVA, A

"Equilibrium in the system $BeCl_2$--$BaCl_2$--H_2O" by A. Novosselova, R. Danilevitch and A. Tichonova (p. 442)

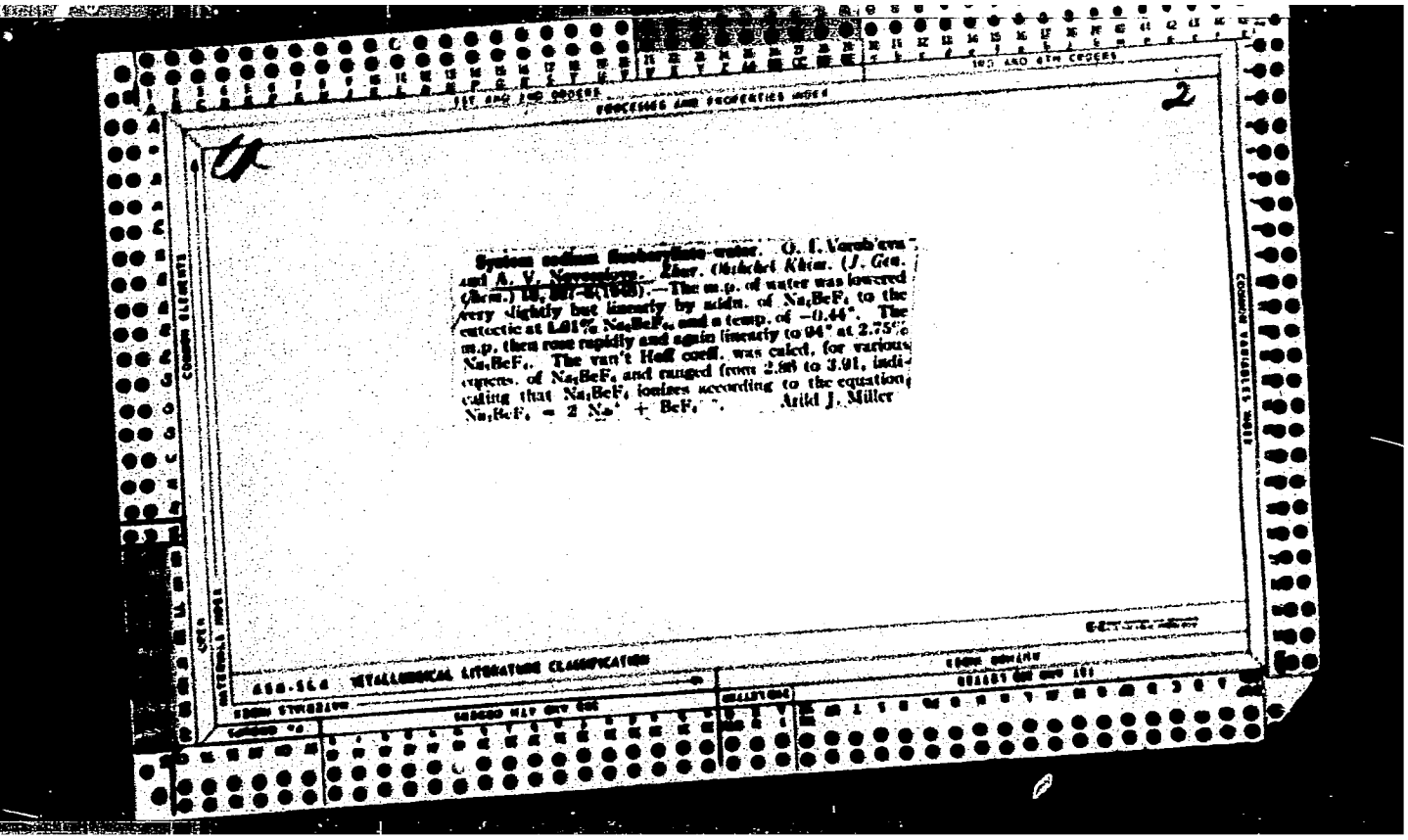
SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1946, Volume 16, No.3



PROCESSES AND PROPERTIES INDEX

6

Precipitation of the hydroxides of iron and beryllium from fluorides. A. V. Nikolaev (Moscow State Univ.). *J. Gen. Chem.* (U.S.S.R.) 16, 1111–22 (1946). Fe can be ppted. from FeF_3 solns. at pH 3.5 to 6.7 in the form of the hydroxide; in the presence of NH_4F the pptn. begins at pH 5.5 and is complete at pH 7.2. From a soln. contg. NH_4F and FeF_3 in 3:1 mol. ratio, Fe can be completely ppted. if 3 moles NH_4OH is added per mole FeF_3, while at larger NH_4F ratios Fe cannot be completely ppted. $Be(OH)_2$ begins to ppt. from 0.1 *M* soln. of BeF_2 at pH 0, while such pptn. from solns. of Na_2BeF_4 and $(NH_4)_2BeF_4$ begins only at pH 7.5–8.0, and is complete at pH 11.6–11.9. It is possible to ppt. Fe hydroxide from a soln. of mixed Fe and Be fluorides or their complex fluorides by the theoretical amt. of NH_4 (3 moles per 1 mole FeF_3), practically without pptn. of Be. $Be(OH)_2$ can be ppted. from its fluoride solns. by NaOH; NH_4 does not give quant. pptn. from Be fluoride solns. G. M. Kosolapoff



System sodium fluoberyllate-water. G. I. Novikova and A. V. Novoselova. Zhur. Obshchei Khim. (J. Gen. Chem.) 15, 807-8(1945).—The m.p. of water was lowered very slightly but linearly by addn. of Na_2BeF_4 to the eutectic at 1.81% Na_2BeF_4 and a temp. of −0.44°. The m.p. then rose rapidly and again linearly to 94° at 2.75% Na_2BeF_4. The van't Hoff coeff. was calcd. for various concns. of Na_2BeF_4 and ranged from 2.88 to 3.01, indicating that Na_2BeF_4 ionizes according to the equation $Na_2BeF_4 = 2\ Na^+ + BeF_4^{--}$. Arild J. Miller

NOVOSELOVA, A. V.

176T23

USSR/Chemistry - Beryllium Compounds Feb 51

"Crystal Hydrates of Beryllium Nitrate," A. V. Novoselova

"Zhur Obshch Khim" Vol XXI, No 2, pp 412-416

Rejected published material of Haldun N. Terem on dehydration of beryllium nitrate by heating its crystal hydrates to 160°, found that nitrogen oxides are also lost. Even heating to only 30-50° results in loss of water and nitrogen oxides. Measured dissocn pressure of tetrahydrate of beryllium nitrate, [illegible]

USSR/Chemistry - Beryllium Compounds (Contd) Feb 51

dissocn products tetrahydrate decomp continuously to form basic soln. Detected new crystn form of tetrahydrate.

176T23

NOVOSELOVA, A. V.

USSR/Chemistry - Lithium and Beryllium May 51

"The System LiCl-$BeCl_2$-H_2O at 0°," A. V. Novoselova, I. G. Sosnovskaya

"Zhur Obshch Khim" Vol XXI, No 5, pp 813-817

From examn of isotherm of soly at 0°C for syst LiCl-$BeCl_2$-H_2O, finds that at 0° no double salts are formed. Following crystallohydrates may exist in equil with the solns: LiCl·H_2O, LiCl·$2H_2O$, and $BeCl_2$·$4H_2O$.

182T32

NOVOSELOVA, A. V.

Chemical Abst.
Vol. 48 No. 4
Feb. 25, 1954
General and Physical Chemistry

Chem

(2)

The LiCl-$BeCl_2$-H_2O system at 0°. A. V. Novoselova and I. G. Sosnovskaya. *J. Gen. Chem. U.S.S.R.* 21, 803-7 (1951)(Engl. translation); *Zhur. Obshchei Khim.* 21, 813-17 (1951).—The soly. isotherm of the system LiCl(I)-$BeCl_2$-(II)-H_2O was detd. at 0°. The soly. of I in H_2O is 41.32 wt. %; the solid phase being $LiCl.2H_2O$(III). Stable univariant equil. occur at soln. compn. 17.2 I and 25.8% II with solids III and $LiCl.H_2O$(IV), and at soln. compn. 13.3 I and 29.4% II with solids IV and $BeCl_2.4H_2O$(V). The equil. solid phase between these points is IV. The soly. of II is 40.35% the solid being V. A metastable univariant equil. was found with solids III and V. No double salts exist at 0°.

Bernard M. Zeffert

MF
7-13-54

1. NOVOSELOVA, A.V, YU.P. SIMANOV, YAREMBASH, YE, - Moscow State U.

2. USSR (600)

4. Systems (Chemistry)

7. Thermal and X-ray phase analysis of the system LiF-BeF_2. Zhur.fiz.khim 26 no.9 1952

Authors were interested in system LiF-BeF_2 because of desire to obtain previously unknown fluoride compds and because melts of BeF_2 and LiF form components of special glasses with low indices of refraction. Stated that LiF underwent an enantiotropic polymorphous conversion at 827 ± 5°C. The mp of LiF was equal to 845 ± 5°C. Clarified the reasons for the existence of the following binary fluorides: 2 LiF. BeF_2(Li_2BeF_4), which melts and decomposes at 461 ± 5°C; LiF.BeF_2($LiBeF_3$), which melts and decomposes at 353 ± 5°C; LiF.2BeF_2($LiBe_2F_5$) which decomposes at 277 ± 5°C, without melting. Also revealed the formation of another binary fluoride with the probable compn of 5LiF.BeF_2(or 4LiF.BeF_2). Cryst. BeF_2 melts similarly to glass, first softening at 577 ± 10°C. BeF_2 congeals from the melt in the form of glass. In melts with LiF, BeF_2, contg over 65% of the latter, indicate the presence of quartz-like BeF_2 in the melts. 261T36

9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

NOVOSELOVA, A.V.; VOROB'YEVA, O.I.; KNYAZEVA, N.N.; PASKUTSKAYA, L.N.

System $BeSO_4$ - $FeSO_4$ - H_2O. Zhur.ob.khim. 23 no.8:1284-1287 Ag '53. (MLRA 6:8)

1. Moskovskiy Gosudarstvennyy universitet.
(Systems (Chemistry)) (Sulfates)

The solubility isotherms, n, and density were determined at 25° and 60°C. for the system $BeSO_4$-$FeSO_4$-H_2O. The presence of double salts or of solid solutions was not detected. The solubility of either $FeSO_4$ or $BeSO_4$ is decreased by the presence of the other compound. The solid phases are $BeSO_4$-$4H_2O$ and $FeSO_4 \cdot 7H_2O$ at 25° and $BeSO_4 \cdot 4H_2O$ and $FeSO_4 \cdot 4H_2O$ at 60°.

NOVOSELOVA, A.V.

SEMENENKO, K.N.; SIMANOV, Yu.P.; NOVOSELOVA, A.V.

Basic beryllium acetate. Article 1: Monoclinic high temperature modification of basic beryllium acetate. Vest.Mosk.un. 9 no.2:61-62 F '54. (MLRA 7:5)

1. Kafedra neorganicheskoy khimii. (Beryllium acetate)

Basic Be acetate prepd. either by sublimation, crystn. of the melt, or crystn. from BuOH forms monoclinic crystals with cell dimensions: a. 13.6, b. 9.24, c. 16.20 kX, β 99°30'. Pycnometric d. 1.340. A powd. and heated (150-5°) specimen shows d. 1.335 which gives z for a monoclinic lattice of 4.03, or z for a rhombohedral lattice of 1.39. Thus the previously reported transition of the cubic to the rhombohedral form at 148° is in error (S. Seki, et at., Nature, 163, 225(1949))

USSR/Chemistry - Dioxanates FD-676

Card 1/1 : Pub. 129 - 11/25

Author : Novoselova, A. V.; and Pashinkin, A. S.

Title : Compounds of dioxane with beryllium halides

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, Vol. 9, No. 3, 75-76, May 1954

Abstract : The authors obtained dioxanates of beryllium chloride and bromide having the composition $BeX_2 \cdot C_4H_8O_2$ and studied their reaction with water and some organic solvents.

Institution : Chair of Inorganic Chemistry

Submitted : November 23, 1953

NOVOSELOVA, A.V.; PASHINKIN, A.S.

Dioxane bonds with beryllium halides. Vest.Mosk.un. 9 no.5: 75-76 My '54. (MLRA 7:7)

1. Kafedra neorganicheskoy khimii.
(Beryllium) (Halides) (Dioxan)

NOVOSELOVA, A.V.

USSR/Chemistry - Beryllium FD-1207

Card 1/1 Pub. 129-10/19

Author : Novoselova, A. V. and Dubenskaya, Ye. A.

Title : Glycine compounds with beryllium salts

Periodical : Vest. Mosk. un., Ser. fizikomat. i yest. nauk, 9, No 5, 97-105, Aug 1954

Abstract : Prepared three new glycine compounds of beryllium salts. All three are crystalline, hygroscopic substances insoluble in alcohol. Stable complex compounds were not observed in aqueous solutions of beryllium and glycine, as reported by Perkin (Biochem. J. Vol 51, 487, 1952). Six tables; five graphs. Fourteen references (all non-USSR).

Institution : Chair of inorganic Chemistry

Submitted : December 8, 1953

NOVOSELOVA, A.V., chlen-korrespondent, dekan.

Chemistry faculty. Nauka i zhizn' 21 no.1:14-15 Ja '54. (MLRA 7:1)

1. Akademiya nauk SSSR. 2. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.

(Chemistry)

ASLANOV, L.A.; SIMANOV, Yu.P. [deceased]; NOVOSELOVA, A.V.; UKRAINSKIY, Yu.M.

Tantalum triselenide and trisulfide. Zhur. neorg. khim. 8 no.12: 2635-2637 D '63. (MIRA 17:9)

ORLOVA, T.Yu.; GRIGOR'YEV, A.I.; NOVOSELOVA, A.V.

Beryllium alkoxyacetates. Zhur. neorg. khim. 9 no.5:1141-1143 My '64. (MIRA 17:9)

NOVOSELOVA, A.V., otv.red.; VOL'FKOVICH, S.I., red.; GERASIMOV, Ya.I., red.; YUR'YEV, Yu.K., red.; YUR'YEVA, L.P., red.

[Department of Chemistry of Moscow State University] Khimicheskii fakul'tet Moskovskogo ordena Lenina i ordena Trudovogo Krasnogo Znameni gosudarstvennogo universiteta imeni M.V.Lomonosova. Moskva, 1955. 59 p. (MIRA 13:6)

1. Moscow. Universitet.
(Moscow University) (Moscow--Chemistry--Study and teaching)

NOVOSELOVA, A. V., TAMM, N. S. and VOROB'YEVA, O. I.

"Solubility isotherm in the System: KF-BeF2-H_2O at 25°C.", Khimiya Redkikh Elementov, No. 2, p 3, 1955.

The solubility in the above syste, was investigated. The following solid phases were found: KF.2H2O; K2BeF4; $KBeF_3$ and K Be_2F_5, x-ray power photographs of the last three salts were taken. $K_2F_4Be_4$ is soluble in water without decomposition while $KBeF_3$ and KBe_2F_5 disolve with decomposition, but can be obtained from aqueous solutions containing a certain excess of berillium flouride.

Moscow State Univ im. M. V. Lomonosov

SO: D-413171

Novoselova, A.V.

FD-2167

USSR/Chemistry - Inorganic

Card 1/1 Pub 129-7/20

Author : Novoselova, A. V.; Pashinkin, A. S.; Semenenko, K. N.

Title : Investigating the system NH_4Cl - $BeCl_2$ by thermometric titration and solubility determination

Periodical : Vest. Mos. un., Ser. fizikomat. i yest. nauk, 10, No 2, 49-56, Mar 1955

Abstract : Confirmed the formation of complexes between beryllium and ammonium chlorides by thermometric titration (plotting temperature vs composition and using maxima as indications of complex formation.). Also obtained solubility data on the system NH_4Cl - $BeCl_2$ - H_2O. Tables, diagrams, Fourteen references (six USSR; eight since 1940).

Institution : Chair of Inorganic Chemistry

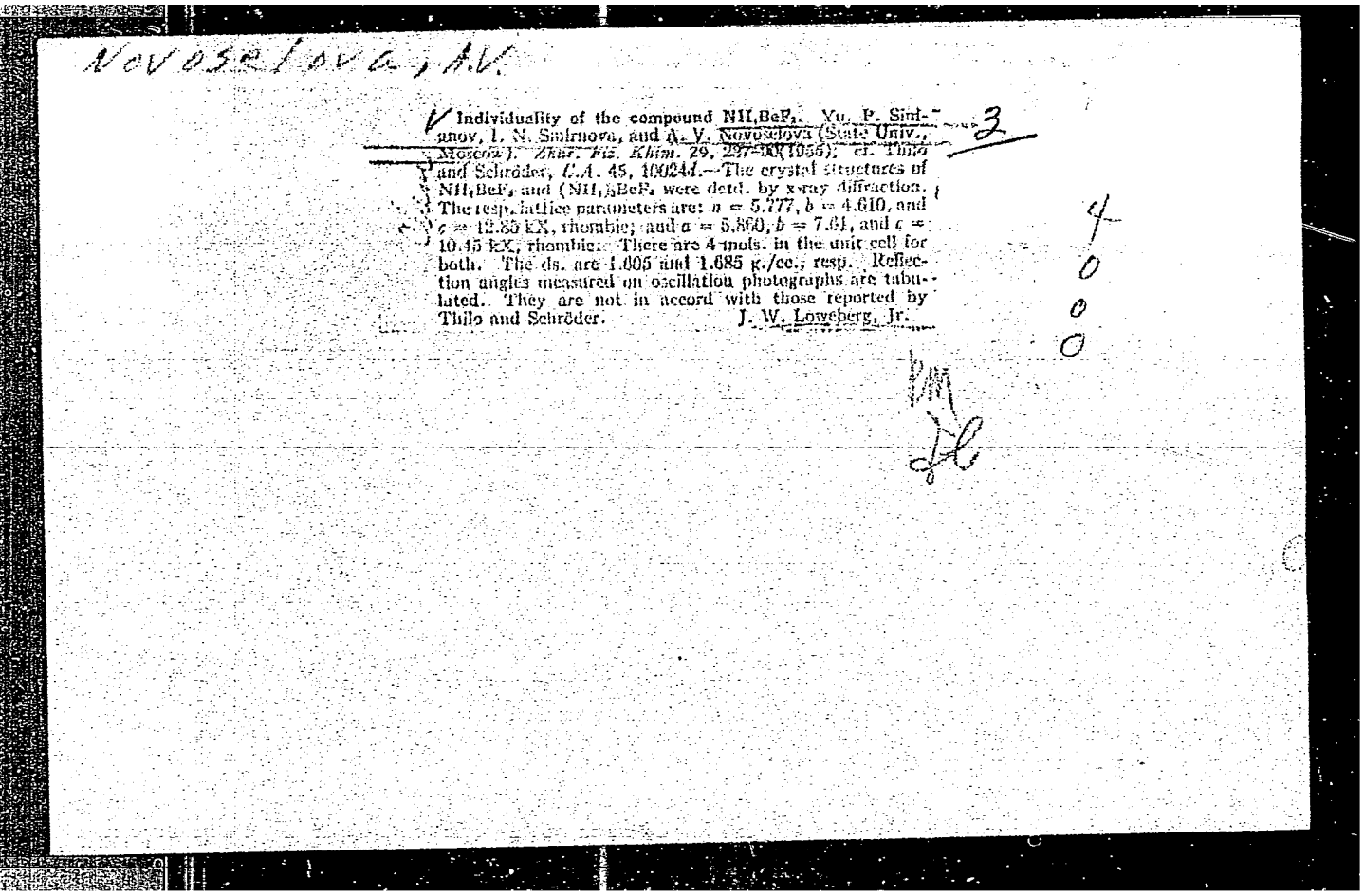
Submitted : September 2, 1954

NOVOSELOVA, A.V.

NOVOSELOVA, A.V.; PASHINKIN, A.S.; SEMENENKO, K.N.; YARMOLASH, Ye.I.

Instrument designed for laboratory work with hygroscopic and hydrolysing substances. Zav.lab.21 no.7:857-858 '55. (MLRA 8:10)

1. Moskovskiy gosudarstvennyy universitet
(Chemical apparatus)



Novoselova, A.V.

Individuality of the compound NH_4BeF_3. Yu. P. Simanov, I. N. Smirnova, and A. V. Novoselova (State Univ., Moscow). *Zhur. Fiz. Khim.* 29, 237–8(1955); cf. Thilo and Schröder, *C.A.* 45, 10024d.—The crystal structures of NH_4BeF_3 and $(NH_4)_2BeF_4$ were detd. by x-ray diffraction. The resp. lattice parameters are: $a = 5.777$, $b = 4.610$, and $c = 12.85$ kX, rhombic; and $a = 5.860$, $b = 7.61$, and $c = 10.45$ kX, rhombic. There are 4 mols. in the unit cell for both. The ds. are 1.605 and 1.685 g./cc., resp. Reflection angles measured on oscillation photographs are tabulated. They are not in accord with those reported by Thilo and Schröder. J. W. Loweberg, Jr.

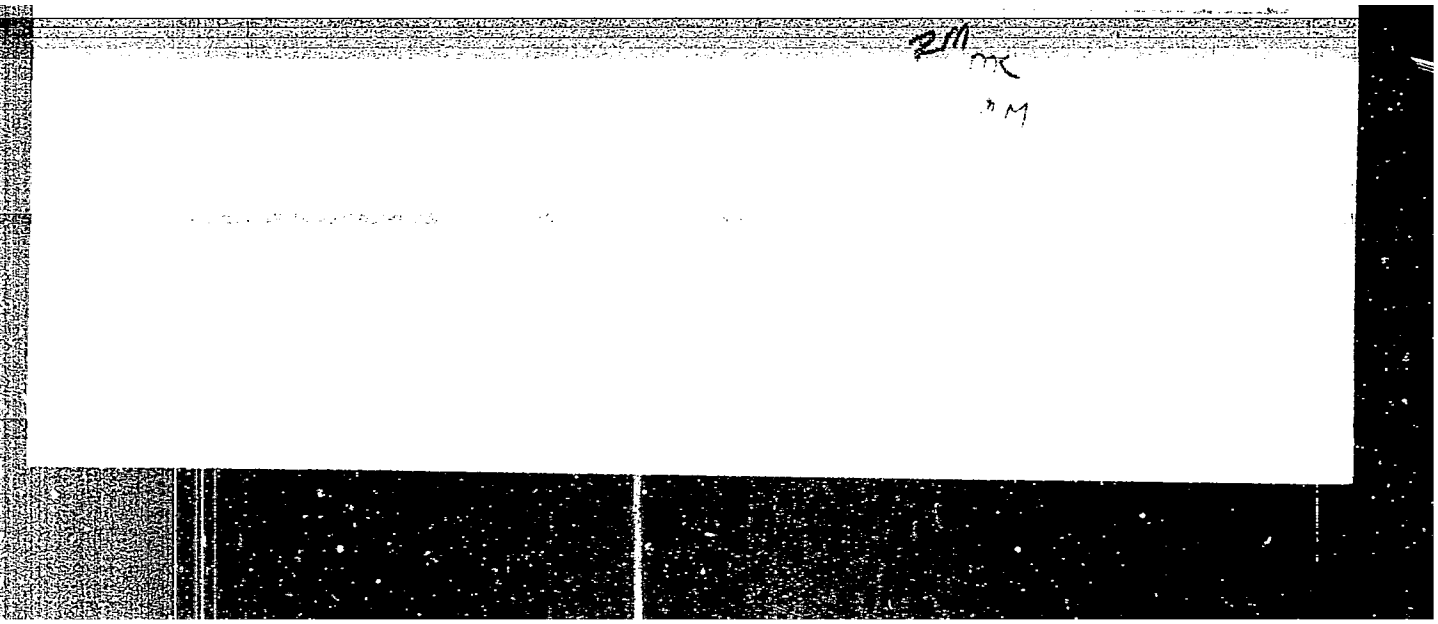
3

4

0

0

0



Novoselova, A.V.

REBINDER, P.A., akademik; NOVOSELOVA, A.V., otv.red.

[Program in colloidal chemistry; for the Chemistry Faculty] Programma po kolloidnoi khimii (dlia khimicheskogo fakul'teta). 1956. 6 p. (MIRA 11:3)

1. Moscow. Universitet. 2. Chlen-korrespondent AN SSSR (for Novoselova)
(Chemistry, Physical and theoretical--Study and teaching)

NOVOSELOVA, A.V.

GERASIMOV, Ya.I., prof.; NOVOSELOVA, A.V., prof., otv.red.

[Program in physical chemistry; for the Chemistry Faculty] Programma po fizicheskoi khimii (dlia khimicheskogo fakul'teta). 1956. 7 p. (MIRA 11:3)

1. Moscow. Universitet. 2. Chlen-korrespondent AN SSSR (for Novoselova)
(Chemistry, Physical and theoretical--Study and teaching)

NOVOSELOVA, A.V.

KHOMYAKOV, K.G., prof.; NOVOSELOVA, A.V., otv.red.

[Program in general chemistry; for the Physics Faculty] Programma po obshchei khimii (dlia fizicheskogo fakul'teta). 1956. 7 p. (MIRA 11:3)

1. Moscow. Universitet. 2. Chlen-korrespondent AN SSSR (for Novoselova)

(Chemistry--Study and teaching)

Novoselova, A.V.

PRZHEVAL'SKIY, Ye.S., prof.; ALIMARIN, I.P., prof.; NOVOSELOVA, A.V., prof., otv.red.

[Program in analytic chemistry; for Chemistry Faculty] Programma po analiticheskoi khimii dlia khimicheskogo fakul'teta. 1956. 14 p. (MIRA 11:3)

1. Moscow. Universitet. 2. Chlen-korrespondent AN SSSR (for Novoselova)
(Chemistry, Analytical--Study and teaching)

NOVOSELOVA, A.V., KIRKINA, D.F. and SIMANOV, Yu. P.

"Investigation of the System BaF_2-BeF_2," Zhur. Neorgan. Khim., 1, No1, 1956

NOVOSELOVA, A. V.

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. B-8
Equilibrium. Physicochemical Analysis. Phase Transitions.

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7486

Author : Mikheyeva, L.M., Novoselova, A.V., and Biktimirov, R.
Title : Determination of the Solubility of Calcium Fluoride and Calcium Beryllium Fluoride in Water and in Hydrochloric Acid Solutions with Tagged Atoms

Orig Pub : Zh. neorgan. khimii, 1956, Vol 1, No 3, 499-505

Abstract : The solubility of CaF_2 in water and in 0.001, 0.01, 0.1, and 1N HCl at room temperature increases from 0.000205 moles/liter at pH 7 to 0.0363 moles/liter at pH 0.3. Saturation os attained after 20-40 hours. The solubility of $CaBeF_4$ was determined at HCl concentrations of 0.01, 0.1, and 1N; as in the previous case the solubility was found to increase with adidity from 0.00093 mole/liter at pH 7 to 0.0974 moles/liter at pH 0.3. Saturation was reached after 50-300 hours. The solubility of $CaBeF_4$

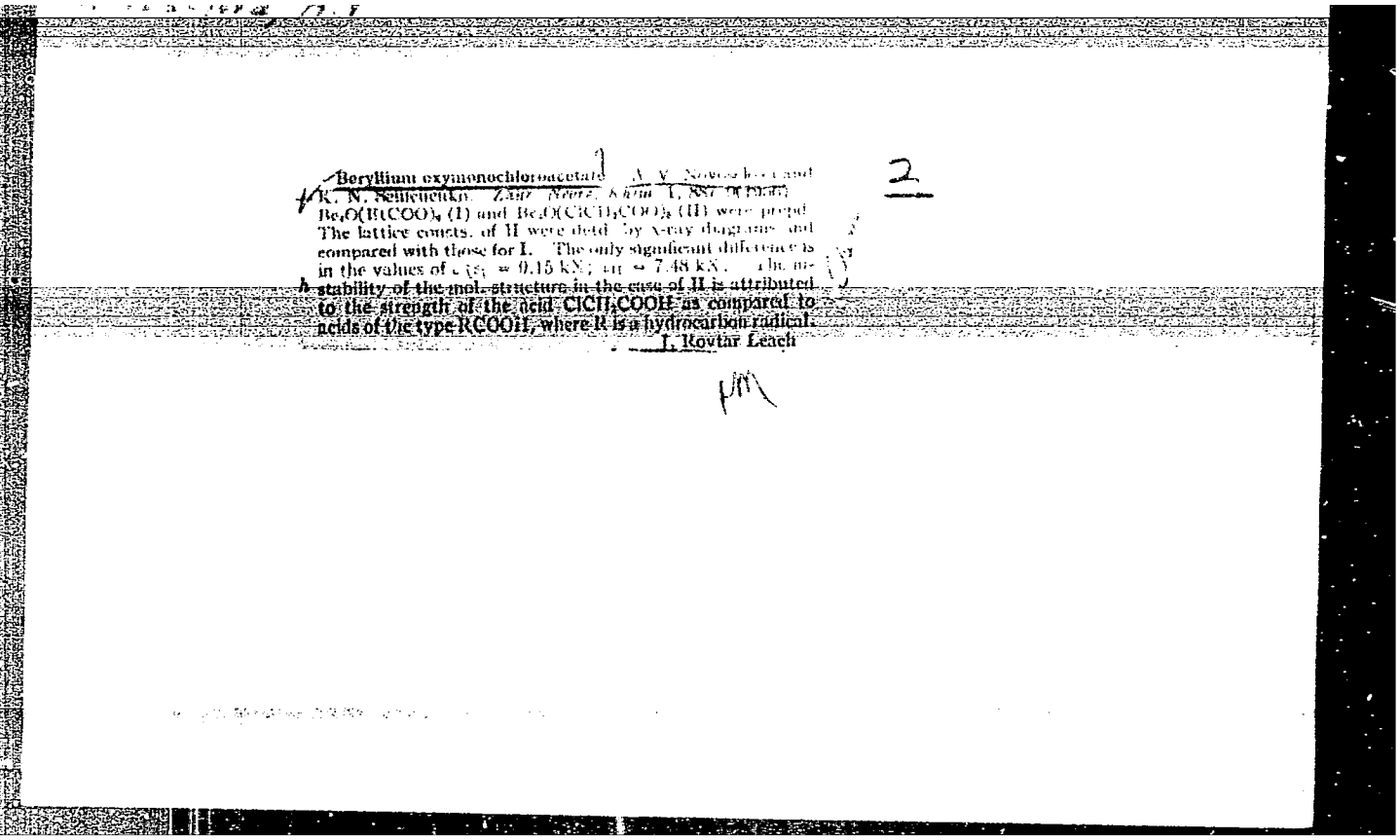
Card 1/2 - 109 -

Novoselova, A. V.

The system $NaF-BeF_2-H_2O$. O. I. Vorob'eva, A. V. Novoselova, A. G. Zhasmin, and Yu. P. Simanov. *Zhur. Neorg. Khim.* 1, No. 3, 516-27(1956).—The soly. isotherms of the system $NaF-BeF_2-H_2O$ were studied at 0°, 20°, and 80°. The binary salts in the system are Na_2BeF_4 (rhombic); Na_3BeF_5 (monoclinic), $4NaF.3BeF_2.2H_2O$ (a newly discovered salt) and $NaBeF_3$. Of the two forms of Na_2BeF_4, only the rhombic variety is stable in the observed temp. range. $4NaF.3BeF_2.2H_2O$ and $NaBeF_3$ are incongruent salts. The hydrated salt (whose individuality is substantiated by debyegrams) decompd., on heating, to Na_2BeF_4 and $NaBeF_3$. The phase boundary NaF + Na_2BeF_4 (expressed as wt.% of NaF and BeF_2 in the liquid phase) is: 0°, NaF 3.70, BeF_2 0.05; 20°, NaF 3.81, BeF_2 0.007; 80° NaF 3.90, BeF_2 0.23. The phase boundary of Na_2BeF_4 + $4NaF.3BeF_2$ is: 0°, NaF 1.03, BeF_2 1.41; 20°, NaF between 1.52 and 1.95, BeF_2 between 2.05 and 7.80; 80°, NaF between 2.99 and 3.07, BeF_2 between 3.38 and 6.60. The phase boundary $4NaF.3BeF_2.2H_2O$ + $NaBeF_3$ is: 20°, NaF 2.5, BeF_2 15.0; 80°, NaF between 3.07 and 3.49, BeF_2 between 6.60 and 15.79. C. H. Fuchsman

NOVOSELOVA, A. V.

Compounds of beryllium oxyacetate with pyridine and dioxane. A. V. Novoselova, Yu. P. Simanov, K. N. Semenenko, and N. N. Krasovskaya. *Zhur. Neorgan. Khim.*, 1 [4] 695–702 (1956).—A detailed investigation was made of the compounds of beryllium oxyacetate with pyridine, $Be_4O(CH_3COO)_6 \cdot 3C_5H_5N$, and with dioxane, $Be_4O(CH_3COO)_6 \cdot C_4H_8O_2$. These materials are insoluble in organic solvents but are readily soluble in water and water solutions of both acids and bases. The process of thermal decomposition of the tripyridinate of beryllium oxyacetate was investigated. The data seem to show that the compound $Be_4O(CH_3COO)_6 \cdot 3C_5H_5N$ is a solid solution of pyridine in the crystal lattice of the unstable molecular compound of composition $Be_4O(CH_3COO)_6 \cdot C_5H_5N$. [illegible] Science



Beryllium oxymonochloroacetate

R. N. Sellicnetkin Zaur. Neorg. Khim 1, 887 (1956)

$Be_4O(RCOO)_6$ (I) and $Be_4O(ClCH_2COO)_6$ (II) were prepd. The lattice consts. of II were detd. by x-ray diagrams and compared with those for I. The only significant difference is in the values of c (I) = 0.15 kX; II = 7.48 kX. The instability of the mol. structure in the case of II is attributed to the strength of the acid $ClCH_2COOH$ as compared to acids of the type RCOOH, where R is a hydrocarbon radical.

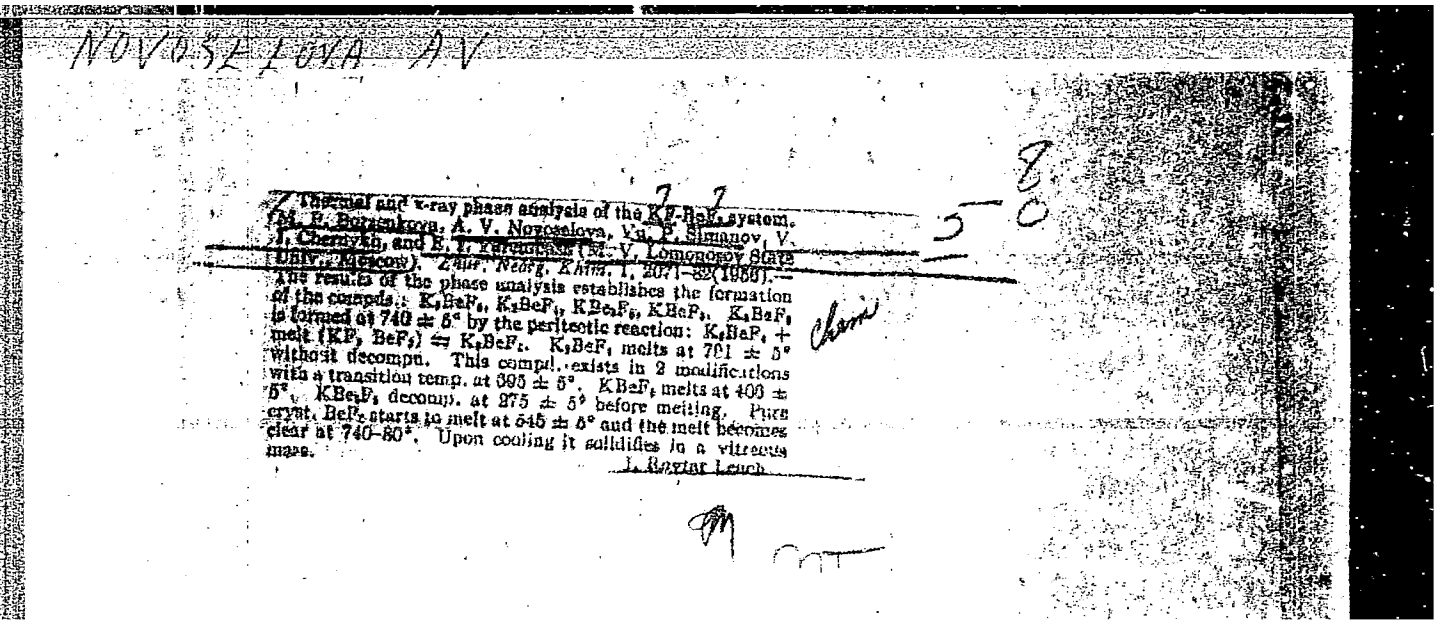
I. Rovtar Leach

2

LEVINA, M.Ye.; NOVOSELOVA, A.V.; SIMANOV, Yu.P.; BAKINA, L.I.

Thermal and X-ray phase analysis of the system: K_2BeF_4 — K_2SO_4. Zhur.neorg.khim. 1 no.7:1638-1641 Jl '56. (MLRA 9:11)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Potassium salts)



NOVOSELOVA AV

Thermal and x-ray phase analysis of the KF-BeF_2 system. [In Russ.] A. V. Novoselova, V. P. Simanov, V. I. Chernykh, and E. V. Yarembash (M. V. Lomonosov State Univ., Moscow). *Zhur. Neorg. Khim.* 1, 2071–82 (1956).—The results of the phase analysis establishes the formation of the compds., K_3BeF_5, K_2BeF_4, KBe_2F_5, $KBeF_3$. K_3BeF_5 is formed at 740 ± 5° by the peritectic reaction: K_2BeF_4 + melt (KF, BeF_2) ⇌ K_3BeF_5. K_2BeF_4 melts at 701 ± 5° without decompn. This compd. exists in 2 modifications with a transition temp. at 595 ± 5°. $KBeF_3$ melts at 400 ± 5°. KBe_2F_5 decomp. at 375 ± 5° before melting. Pure cryst. BeF_2 starts to melt at 545 ± 5° and the melt becomes clear at 740–80°. Upon cooling it solidifies to a vitreous mass.

L. Baylor Leach

NOVOSELOVA, A.V.

C.

USSR/Inorganic Chemistry - Complex Compounds.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30322

Author : Novoselova, A.V., Semenenko, K.N.

Inst :

Title : Interaction of Beryllim Oxyacetate with Beryllium Oxymonochloracetate.

Orig Pub : Zh. neorgan. khimii, 1956, 1, No 10, 2344-2348

Abst : By methods of thermal and x-ray phase analyses a study was made of the system $Be_4O(CH_3COO)_6$ (I) - $Be_4O(CH_2ClCOO)_6$ (II). A chemical interaction takes place in the system between I and II, which results in the formation of four phases of variable composition which crystallize on the basis of I, II, $Be_4O(CH_3COO)_4(CH_2ClCOO)_2$ (III) and $Be_4O(CH_3COO)_2(CH_2ClCOO)_4$. The system is characterized by two eutectics at 210° and 23% I at 190°, peritec-

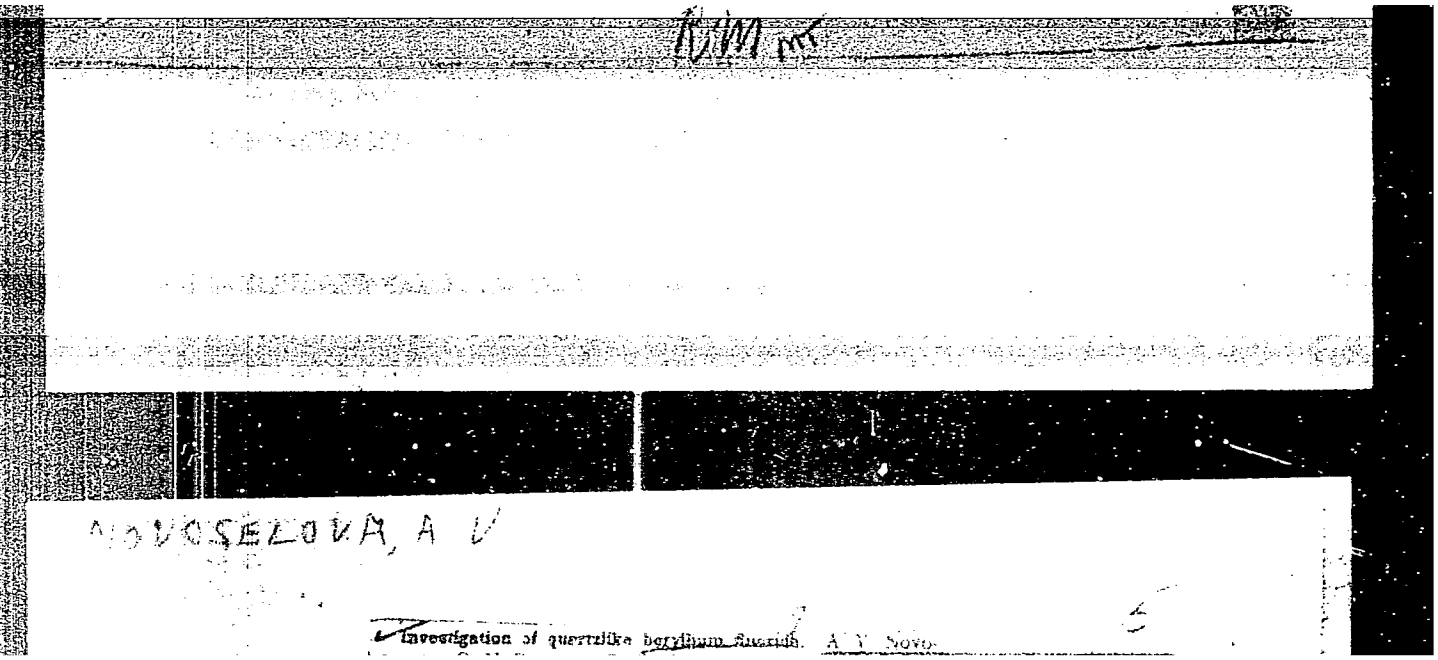
Card 1/2

NOVOSELOVA, A. V. and TUROVA, N. Ya.

"Concerning the Interaction of Beryllium Oxyacetate With Ammonium Bifluoride," by N. Ya. Turova, A. V. Novoselova, and K. N. Semenenko, Moscow State University, Zhurnal Neorganicheskoy Khimii, Vol 1, No 11, Nov 56, pp 2567-2569

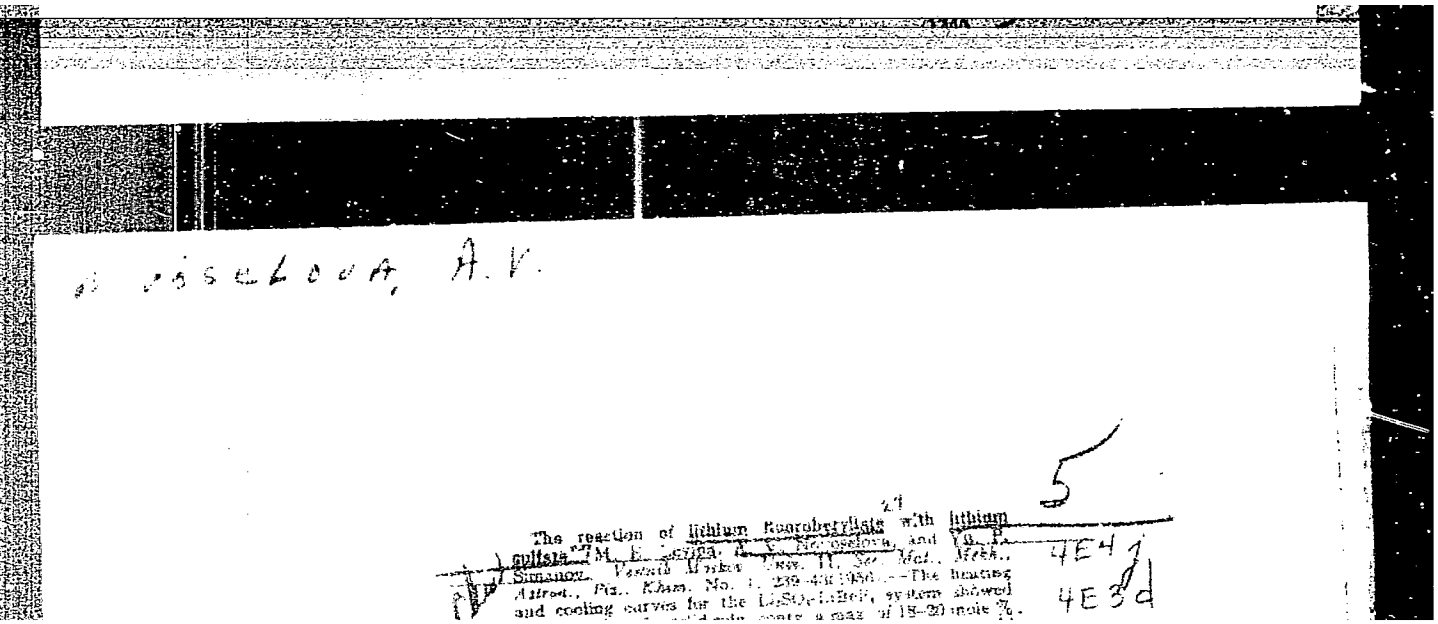
The experimental results obtained in the work described confirm that as a result of the interaction of $Be_4O(CH_3COO)_6$ with NH_4HF_2 there is rapid decomposition of the oxy-salt and formation of beryllium-fluorine compounds. The decomposition of the reaction products under the action of heat has been investigated and the conditions have been determined under which beryllium fluoride is formed from them.

S um 1274



NOVOSELOVA, A V

Investigation of quartzlike beryllium fluoride. A. V. Novo...

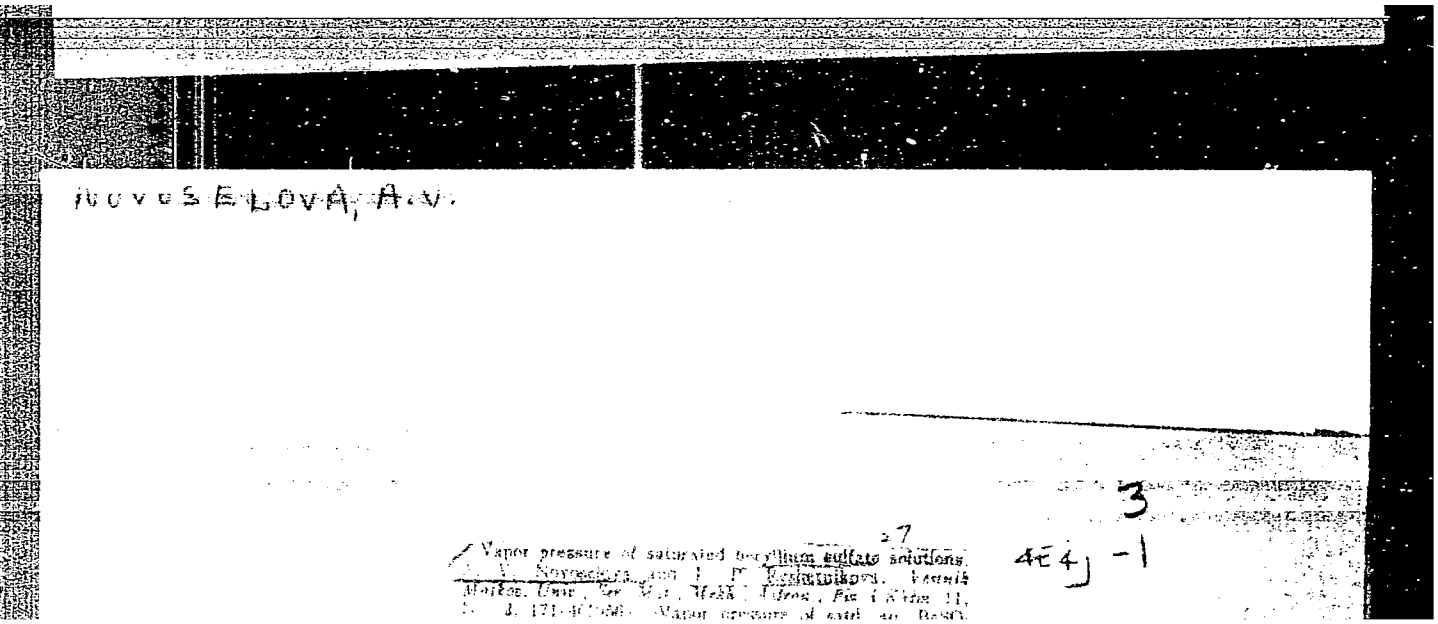


Rosseeva, A. V.

5

The reaction of lithium fluoroberyllate with lithium sulfate. M. E. [illegible] A. V. Rosseeva, and V. P. Simanov. Vestnik Moskov. Univ. II, Ser. Mat., Mekh., Astron., Fiz., Khim. No. 1, 235-40(1956).—The heating and cooling curves for the Li2SO4-Li2BeF4 system showed [illegible] range of 15–20 mole %.

4E41
4E3d



NOVOSELOVA, A.V.

3

27

Vapor pressure of saturated [illegible] solutions.

4E4J -1

E. C. 4, A V.

7

7 Beryllium oxyacetate. III. Interaction of beryllium oxyacetate with ammonia. V. N. Makarov, A. [illegible] Novoselova, and K. K. Semenenko (Moscow State Univ.). Zhur. Neorg. Khim. 2(11):2576-80. [illegible] $Be_4O(AcO)_6$, dissolved in $CHCl_3$, [illegible] dissolving in excess of NH_3 [illegible] but giving way to a heavy [illegible] contains a substance (IV) [illegible] III. According to analysis of I-IV the following [illegible] suggested: [illegible] $Be_4O(AcO)_6 \cdot (NH_3)_2$ (II) with [illegible] III and IV with [illegible] resp.; III [illegible] of III [illegible] [illegible]

NOVOSELOVA A.V.

TOPCHIYEVA, K.V.; PESHKOVA, V.M.; SHAKHOVA, Z.F.; ALIMARIN, I.P.; NOVOSELOVA, A.V.; SPITSYN, V.I.; LUTSENKO, I.F.; GERASIMOV, Ya.I.; NESMEYANOV, A.N.; TERENT'YEV, A.P.; POTAPOV, V.M.; GIBALO, I.M.

N.S. Przheval'skii; obituary. Vest. Mosk. un. Ser. mat. mekh., astron., fiz., khim. 11 no.2:205-207 '56. (MIRA 10:12)
(Przheval'skii, Nvgenii Stepanovich, 1879-1956)

NOVOSELOVA, A.V.

C

USSR / Inorganic Chemistry. . Complex Compounds

Abs Jour : Ref Zhur - Khimiya, No 3, 1957, No 7797

Author : Novoselova, A.V., Semenenko, K.N., Krasovskaya, N.N. and Simenov, Yu.P.

Inst : Moscow University

Title : Beryllium Oxyacetate. Communication 2. Concerning Some Properties of Beryllium Oxyacetate-Pyridine Compounds

Orig Pub : Vestn. Mosk. Un-ta, 1956, 11, No 3, 87-93

Abstract : Barium oxyformate, $Be_{14}(HCOO)_6$ (I), has been synthesized and investigated and the formation and the properties of compounds of I, beryllium oxyacetate ($Be_4O(CH_3COO)_6$ (II), and beryllium oxypropionate ($Be_4O(CH_3CHCOO)_6$ (III) with pyridine (IV) and dioxane (V) have been studied. I was prepared by treating Be hydroxide or bicarbonate with formic acid, followed by the decomposition of the nromal Be formate which is obtained in vacuo at 250 - 260°. At 250°, the yield of pure I

Card : 1/4

USSR / Inorganic Chemistry. Complex Compounds C

Abs Jour : ref Zhur - Khimiya, No 3, 1957, No 7797

: a solid solution of IV in II; because of steric hindrance effects, beta-picoline does not form a compound with II. When I, II, and III are dissolved in V, a precipitate of the overall formula $Be_4O(RCOO)_6 \cdot C_4H_8O_2$ is formed. The dioxanates of the Be oxy-salts are light, finely crystalline white powders, insoluble in organic solvents and soluble in water; in the latter case, decomposition is observed. Prolonged agitation in $CHCl_3$, acetone, C_6H_6, and ether leads to a destruction of the dioxanates and the formation of oxy-salts. The solubility of the dioxanates of I, II, and III in V increases with increasing molecular weight. The compound formed by II with V (1/1) is stable at 20 - 85° in the presence of the liquid phase. When exposed to the atmosphere, the dioxanates of I, II, and III gradually lose V; on heating, the loss of V molecules is accompanied by the splitting off of part of the acid residues; at 300° distillation begins and BeO remains.

Card : 3/4

USSR/Thermodynamics. Thermochemistry. Equilibria. Physico-Chemical Analysis. Phase Transitions. B-8

Abs Jour : Ref Zhur - Khimiya, No 8, 1957, 26152

Author : L.R. Batsanova, A.V. Novoselova
Title : Study of System $(NH_4)_2BeF_4$ - NH_4MnF_3 - H_2)

Orig Pub : Zh. Obshch. Khimii, 1956, 26, No 7, 1827-1830

Abstract : The solubility in the system $(NH_4)_2BeF_4$ (I) - NH_4NF_3 (II) - H_2) was studied at 25 ± 0.1°. The solubility of I in water is 32.3%. The dissolution of II in water is accompanied by a slow decomposition. No decomposition of II was observed in solutions containing I. No new compounds and solid solutions were found in the system; the bottom phases are I and II. The solution saturated with respect to both the salts contains (in % by weight) 19.31 of NH_4F, 12.31 of BeF_3 and 0.26 of MnF_2. The obtained data can be applied to the determination of conditions of separation of fluorine compounds of Be and Mn.

Card : 1/1

NOVOSELOVA, ALEKSANDRA VASIL'YEVNA

NOVOSELOVA, Aleksandra Vasil'yevna; FAYNBOYM, I.B., redaktor; GUBIN, M.I., tekhnicheskiy redaktor.

[Rare metals and their uses] Redkie metally i ikh primenenie. Moskva, Izd-vo "Znanie," 1957. 22 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.4, no.20) (MIRA 10:11)

1. Chlen-korrespondent AN SSSR (for Noveselova).
(Metals, Rare and minor)

course of this treatment the [illegible] is partially decomposed and at a temperature of ~300° it is converted into "metaacetate" $LaO(CH_3COO)$. During boiling of the $La(CH_3COO)_3.1.5\ H_2O$ in acetic anhydride a water-free lanthanum acetate is obtained that is stable in the air at room temperature. During heating to 300° it also is converted to $LaO(CH_3COO)$.

Card : 1/1 -9-

NOVOSELOVA, A. V.

USSR/Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref. Zhur-Khimiya, No 1, 1958, 674.

Author : Grigoryev, A.I., Novoselova, A.V., Semenenko, K.N.
Inst :
Title : On the Interaction of Berillium Oxyacetate with Ammonia, Methyl Amine, Ethyl Amine, and Sulfur Dioxide.

Orig Pub: Zh. Neorgan. Khimii, 1957, 2, No 6, 1374-1376.

Abstract: By dissolving $Be_4O(CH_3COO)_6$ in liquid NH_3, CH_3NH_2, $C_2H_5NH_2$ and in SO_2 there were obtained $Be_4O(CH_3COO)_6.4\ NH_3$ (I), $Be_4O(CH_3COO)_6.3C_2H_5NH_2$ (II), and $Be_4O(CH_3COO)_6.4SO_2$ (IV), respectively. Decomposition of I and III starts at 50-60° and 60-70° respectively and ends at 180 and 170-180°; II starts to decompose at room temperature; a complete decomposition takes place at 160°; IV is unstable at room temperature. The authors refer the compounds obtained to inclusion compounds.

Card : 1/1 -15-

NOVOSELOVA, A.V.

GRIGOR'YEV, A.I.; NOVOSELOVA, A.V.; SEMENENKO, K.N.

Interaction between beryllium oxyacetates and alcohols. Zhur. neorg.khim. 2 no.9:2067-2072 S '57. (MIRA 10:12)
(Beryllium acetates) (Alcohol)

NOVOSELOVA, A. V., SIMANOV, Yu. P., and LEVINA, M. Ye.

"Concerning the Interaction Between Lithium Fluoroberyllate and Lithium Sulfate," by M. Ye. Levina, A. V. Novoselova, and Yu. P. Simanov, Chair of Inorganic Chemistry, Moscow State University, Vestnik Moskovskogo Universiteta, Vol 11, No 1, Jan/Feb 57, pp 239-243

The phase relationships in the system Li_2BeF_4-$LiSO_4$ have been investigated by the methods of thermal and X-ray analysis. A constitutional diagram of the system was plotted.

Sum 1258

PASHINKIN, A. S., MEN'KOV, A. A., KORNEYEVA, I. V. and NOVOSELOVA, A. V.
(Moscow State Univ im M. V. Lomonosov)

"Investigation of the Sublimation of Tellurium by Using Radioactive Indicators"

Isotopes and Radiation in Chemistry, Collection of papers of 2nd All-Union Sci. Tech. Conf. on Use of Radioactive and Stable Isotopes and Radiation in National Economy and Science, Moscow, Izd-vo AN SSSR, 1958, 380pp.

This volume published the reports of the Chemistry Section of the 2nd AU Sci Tech Conf on Use of Radioactive and Stable Isotopes and Radiation in Science and the National Economy, sponsored by Acad Sci USSR and Main Admin for Utilization of Atomic Energy under Council of Ministers USSR Moscow 4-12 Apr 1957.

AUTHORS: Kuvyrkin, O. N., Breusov, O. N., Novoselova, A. V. SOV/156-58-4-12/49

TITLE: Thermal Analysis of the System $BeCl_2$-BeF_2 (Termicheskiy analiz sistemy $BeCl_2$-BeF_2)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 4, pp 660-663 (USSR)

ABSTRACT: In the present paper the thermal investigation of the system $BeCl_2$-BeF_2 was carried out and the phase diagram was plotted. Purest beryllium hydroxide was used as initial material for the chlorides and fluorides. Beryllium hydroxide was converted into beryllium oxide by annealing at 1000° C, and was then converted into beryllium chloride by chlorination with carbon tetrachloride at 1000°. Beryllium fluoride is obtained by thermal decomposition of $(NH_4)_2BeF_4$ in vacuum. The thermal analysis of the system $BeCl_2$-BeF_2 was carried out by means of Kurnakov PK-52 pyrometer with platinum-platinum-rhodanid. The fluorides and chlorides of beryllium form a simple eutectic with the composition 72.5 mol% BeF_2, and a melting point at 306°C.

Card 1/2

Thermal Analysis of the System $BeCl_2$-BeF_2 SOV/156-58-4-12/49

The thermal analysis shows a weak endothermal effect at 110° C, which indicates the transformation of unstable beryllium fluoride into a highly stable form. The melting point of beryllium fluoride was determined to be 421°C. The heating curves of the samples show effects at temperatures higher than the liquidus temperature, which indicates the boiling of the $BeCl_2$-BeF_2 melt. In the case of a higher beryllium chloride content no solid solutions were found by means of X-ray analysis. There are 1 figure, 1 table, and 8 references, 4 of which are Soviet.

ASSOCIATION: Kafedra neorganicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Inorganic Chemistry at the Moscow State University imeni M. V. Lomonosov)

SUBMITTED: June 20, 1958

Card 2/2

5(1, 2)

AUTHORS: Novoselova, A. V., Pashinkin, A. S., Men'kov, A. A., Gol'denberg, A. E. SOV/153-58-6-2/22

TITLE: Manufacture of Pure Tellurium by Sublimation (Polucheniye chistogo tellura vozgonkoy)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1958, Nr 6, pp 9-13 (USSR)

ABSTRACT: By way of introduction the field of application (synthesis of tellurides with semiconducter properties) is mentioned, and the main admixtures in tellurium (Ref 1) are enumerated. The purification methods are recalled (Refs 2, 6). Due to the fact that tellurium, both in the liquid and in the solid state, possesses a considerable vapor pressure (Refs 7-10), sublimation constitutes a most efficient purification method. The authors studied the process mentioned in the title and the tellurium distribution in the condensation zone. The initial tellurium was highly oxidized and contained a great amount of tellurium dioxide. It was chemically purified and investigated with regard to selenium admixtures. For the determination of the temperatures of the condensation zones a device (Fig 1) was used.

Card 1/3

Data on the distribution of tellurium in the condensation zone, at 400 and 500°, were obtained (Tables 1, 2).
Manufacture of pure tellurium by sublimation. Chemically purified tellurium was sublimated in a second device (Fig 3). In order to prevent a mechanical transmission of impurities into the condensate, tellurium was first of all remelted. For this purpose a crucible and nitrogen atmosphere were used. After the cooling of the fusion the crucible was connected with the condenser and put into the sublimation device. In the device a vacuum of 10^{-4} - 10^{-5} mm mercury column was produced, and the oven temperature was slowly raised to 400-420°. The sublimated tellurium accumulated in large crystals that could easily be removed from the glass. The remainder in most cases hardly exceeded 10-15% of the total test quantity and consisted chiefly of tellurium dioxide. Table 2 shows the results of a spectral analysis of the sublimated substances, as well as the results of the sublimation of tellurium which had not been chemically purified. B. A. Popovkin participated in the work. A solitary sublimation will lower the contents of most admixtures to

$1 \cdot 10^{-4}$% each. However, halogen and selenium admixtures cannot be determined by means of spectral analysis. In an earlier study (Ref 13) it had been found that no separation of selenium from tellurium occurs on sublimation. As already mentioned, the selenium content in tellurium could, however, be lowered to $2 \cdot 10^{-4}$% by means of chemical purification. Due to the different volatilities of their dioxides selenium and tellurium can be separated (Refs 14-18). The purification of other admixtures (Ref 19) is discussed. There are 3 figures, 2 tables, and 19 references, 9 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova, Kafedra neorganicheskoy khimii (Moscow State University imeni M. V. Lomonosov, Chair of Inorganic Chemistry)

SUBMITTED: November 18, 1957

Novoselova, A.V.

78-2-19/43

AUTHORS: Reshetnikova, L. P., Novoselova, A. V., Kirkina, D. F.

TITLE: Investigations on the System $CaSO_4$-$BeSO_4$-H_2O (Issledovaniye sistemy $CaSO_4$-$BeSO_4$-H_2O)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol. 3, Nr 2, pp. 378-382 (USSR)

ABSTRACT: The purpose of the present paper was an investigation of the solubility of the system $CaSO_4$-$BeSO_4$-H_2O and the explanation of the influence exerted by these sulfates upon each other. The solubility was investigated at 25 and 75° C. In the system $CaSO_4$-$BeSO_4$-H_2O the eliminated solid phase at 25 and 75° C is pure $CaSO_4$ and neither double salts nor solid solutions could be determined. The $CaSO_4$, eliminated at 25° C crystallizes with 2 Mol of water. The $CaSO_4$ eliminated at 75° C represents calcium-sulfate anhydrite. Chemically pure beryllium sulfate and calcium sulfate were used as initial substances. $CaSO_4$ was produced by way of calcium chloride and sulfuric acid. The determination of beryllium in the solution is performed volumetrically. But the determination of calcium is performed with the aid of the radioactive

Card 1/2

indicator Ca^{45}. For the separation of beryllium and calcium, calcium oxalate is first precipitated with the aid of ammonium oxalate in a neutral solution, whereas beryllium stays in the solution as a soluble complex. On addition of beryllium sulfate to the calcium-sulfate solution at 2% of beryllium sulfate a minimum of the solubility of $CaSO_4$ occurs, then the solubility again increases to 5% of beryllium sulfate, and then it again decreases. Crystallographic analyses also showed that the solid phase only contains calcium sulfate and that neither double salts nor solid solutions occur between $CaSO_4$ and $BeSO_4$. It was found that the solubility of calcium sulfate at an addition of beryllium sulfate at 25° C in comparison with the solubility in water is almost reduced six times (209 mg/100 g solution in water as compared to 31 mg/100 g solution) and that it is 13 times reduced at 75° C (200 mg as compared to 15 mg/100 solution). There are 4 figures, 3 tables, and 16 references, 2 of which are Slavic.

SUBMITTED: April 27, 1957
AVAILABLE: Library of Congress

SOV/78-3-7-1/44

AUTHORS: Zlomanov, V.P., Novoselova, A.V., Pashinkin, A.S., Simanov, Yu.P., Semenenko, K.N.

TITLE: Determination of the Pressure of Steam Saturated With Solid Tellurium Dioxide (Opredeleniye davleniya nasyshchennogo para tverdoy dvuokisi tellura)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 7, pp 1473-1477 (USSR)

ABSTRACT: The pressure of steam saturated with solid tellurium dioxide was determined in the temperature interval of 457-704° C by means of a radioactive tellurium isotope. The phase composition of tellurium dioxide was determined, for which purpose thermograms for the temperature interval of 25-800° C, as well as heating- and cooling diagrams were made. X-ray analyses showed that the crystal lattice of tellurium dioxide is tetragonal and has the following parameters: a = 4,796, c = 7,588 kX.
On the strength of the results obtained by thermographical and radiographical analyses it follows that the solid phase of the vaporous tellurium dioxide shows tetragonal modifications. There are 3 figures, 2 tables, and 16 references, 9 of which are Soviet.

Card 1/2

Determination of the Pressure of Steam Saturated With Solid Tellurium Dioxide SOV/ 78-3-7-1/44

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (Moscow State University imeni M.V.Lomonosov)

SUBMITTED: July 8, 1957

1. Steam--Pressure 2. Pressure--Determination 3. Tellurium dioxide--Phase studies 4. Tellurium isotopes--Applications 5. X-rays--Applications

Card 2/2

AUTHORS: Grigor'yev, A.I., Novoselova, A.V., Semenenko, K.N. SOV/78-3-7-22/44

TITLE: On the Compounds of Berylliumoxyacetate With Ethylamine and Butylamine (O soyedineniyakh oksiatsetata berilliya s etilaminom i butilaminom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol. 3, Nr 7, pp 1599-1604 (USSR)

ABSTRACT: Compounds of berylliumoxyacetate with ethylamine and butylamine were synthetized. Analyses resulted in the following compositions: $Be_4O(CH_3COO)_6 \cdot 8\ C_2H_5NH_2$, $Be_4O(CH_3COO)_6 \cdot 4\ C_2H_5NH_2$, $Be_4O(CH_3COO)_6 \cdot 3\ C_2H_5NH_2$, $Be_4O(CH_3COO)_6 \cdot 8\ C_4H_9NH_2$, $Be_4O(CH_3COO_6) \cdot 4C_4H_9NH_2$, $Be_4O(CH_3COO)_6\ 3\ C_4H_9NH_2$ and $Be_4(CH_3COO)_6 \cdot C_4H_9NH_2$.

The complex compounds with butylamine are easily decomposed. The crystal lattices of the compounds $Be_4O(CH_3COO)_6 \cdot 4\ C_2H_5NH_2$ and $Be_4O(CH_3COO)_6 \cdot 4\ C_4H_9NH_2$ are very similar. The thermograms of the compounds of berylliumoxyacetate with ethylamine and butylamine

Card 1/2

On the Compounds of Berylliumoxyacetate With Ethylamine and Butylamine

SOV/78-3-7-22/44

were investigated. It turned out that the complexes with butylamine are less stable than those with ethylamine. The thermal decomposition of the compounds of berylliumoxyacetate with ethylamine occurs at a comparatively low temperature and is accompanied by an endothermal effect, which is indicative of strong interaction between the components of the complex. The thermograms show that complete decomposition of the compounds occurs at 110-120° C, and that the complexes with butylamine are decomposed at temperatures that are 15° C lower than in the case of ethylamine. Separation of 2 molecules butylamine from butylamine complexes occurs more easily than that of the third molecule of butylamine. There are 4 figures, 1 table, and 4 references, 3 of which are Soviet.

SUBMITTED: June 26, 1957

1. Complex compounds--Synthesis 2. Complex compounds--Analysis 3. Beryllium--Properties 4. Acetates--Properties 5. Ethylamines --Properties 5. Butylamines--Properties 6. Crystals--Lattices

Card 2/2

SOV/78-3-9-33/38

AUTHORS: Novoselova, A. V., Pashinkin, A. S., Popovkin, B. A.

TITLE: The Behavior of Selenium Impurities in Vacuum Distillation of Tellurium (K voprosu o povedenii primesi selena pri vakuumnoy destillyatsii tellura)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2211-2212 (USSR)

ABSTRACT: The distribution of selenium impurities in tellurium in vacuum distillation was examined. The quantitative determination of the distribution of selenium in tellurium was achieved by means of radioactive isotopes of selenium. The corresponding distribution curves of tellurium and the addition of selenium, depending on the condensation temperature, were drawn on the basis of the results obtained (Fig 1). Attempts at commercial purification of tellurium with 0,8% selenium by vacuum distillation did not yield a serviceable separation efficiency. The distillation was carried out at temperatures of 520 to 540°C. Vacuum distillation does not effect a separation of selenium impurities in tellurium. Tellurium and selenium are miscible at every ratio and also in solid state when they

Card 1/2

The Behavior of Selenium Impurities in Vacuum Distillation of Tellurium

form complex mixed molecules, which render separation more difficult.
There are 1 figure, 1 table, and 9 references, 7 of which are Soviet.

SUBMITTED: January 30, 1958

AUTHORS: Novoselova, A. V., Semenenko, K. N. SOV/78-3-9-34/38

TITLE: Chlorination of Beryllium Oxide With Carbon Tetrachloride (Khlorirovaniye okisi berilliya chetyrekhloristym uglerodom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2213-2214 (USSR)

ABSTRACT: An apparatus for the chlorination of beryllium oxide with carbon tetrachloride in the so-called "boiling layer" was described. Beryllium oxide is chlorinated at a temperature of 700-800°C in a quartz boat with carbon tetrachloride vapor and with nitrogen as a carrier. The beryllium chloride formed - $BeCl_2$ - is removed from the zone of reaction by sublimation. The reactor for the reaction is placed vertically. This apparatus for chlorination of beryllium oxide in the boiling layer shows that after 20 to 25 minutes almost 95% of all the beryllium oxide has been chlorinated. A chlorination of beryllium oxide in a horizontal reactor, however, does not supply a quantitative yield even after several days.
There are 1 figure and 3 references, 0 of which is Soviet.

Card 1/2

SOV/78-3-11-21/23

AUTHORS: Novoselova, A. V., Levina, M. Ye., Savel'yeva, M. P.

TITLE: The Phase Diagram of the System NaF-BeF_2 (Diagramma sostoyaniya sistemy NaF-BeF_2)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2562-2570 (USSR)

ABSTRACT: The system NaF-BeF_2 was investigated in the crystallization range of beryllium fluoride. Purest sodium- and ammonium-beryllium fluoride were used for the investigation: Na_2BeF_4 and $(NH_4)_2BeF_4$. The differential thermal analysis was carried out by means of the pyrometer by Kurnakov. It was found that in the case of the thermal treatment of Na_2BeF_4 besides the thermal effects at 220 and 326°C also an endothermal effect at 270°C occurs on the thermograms. Na_2BeF_4 melts at 610 ± 5°C. The results of the thermal analyses of the melt of the system NaF-BeF_2 are given in table 1. The phase diagram of the system is given in figure 1. The following double salts were found to

Card 1/2

The Phase Diagram of the System $NaF-BeF_2$

occur in the system: 3 $NaF.BeF_2$ (decomposes at 480°C), $2NaF.BeF_2$ (melting point at 610°C), $NaF.BeF_2$ or $NaBeF_3$ (melting point at 380°C), $NaF.2\ BeF_2$ (decomposes at 270°C).

Thermal analyses of the melts were carried out with 33,3 - 50 mol% BeF_2 as well as with 50 - 100 mol% BeF_2. On the strength of the investigations carried out a second phase diagram of $NaF-BeF_2$ was constructed on which also the limit of the high-temperature modification is plotted. The structure of the high-temperature modification of beryllium fluoride was not determined. The melting point of this modification is 800°C.
There are 8 figures, 4 tables, and 17 references, 9 of which are Soviet.

SUBMITTED: July 17, 1957

Card 2/2

5 (2, 3)

AUTHORS: Novoselova, A. V., Semenenko, K. N., SOV/55-58-6-18/31
~~Turova, N. Ya.~~

TITLE: Beryllium-organic Compounds (Berilliyorganicheskiye soyedineniya)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 139-147 (USSR)

ABSTRACT: This article gives a survey of the known possibilities of obtaining and of the fundamental properties of beryllium-organic compounds. The data concerning these compounds are from Western publications. The various existing types of beryllium-organic compounds (BeR_2 and BeRX, where R denotes aliphatic or aromatic radicals, X - a halide, alkoxyl, hydrogen or the NR_2 group), as well as the hitherto nearly unknown type RBeR' are discussed in detail. There are 2 tables and 40 references, 4 of which are Soviet.

Card 1/2

Beryllium-organic Compounds SOV/55-58-6-18/31

ASSOCIATION: Kafedra neorganicheskoy khimii (Chair for Inorganic Chemistry)

SUBMITTED: December 25, 1957

Card 2/2

5 (2,4)

AUTHORS: Novoselova, A. V., Muratov, F. Sh., Reshetnikova, L. P., Gordeyev, I. V.

SOV/55-58-6-23/31

TITLE: Investigations on the Pressure of Dissociation of the Sodium Fluoroberyllate Having the Composition Na_2BeF_4 (Issledovaniye davleniya dissotsiatsii ftoroberillata natriya sostava Na_2BeF_4)

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 6, pp 181 - 190 (USSR)

ABSTRACT: This report covers investigations of the thermal dissociation of the above composition within the temperature range of 1009-1197°. Besides, the steam pressure over the liquid sodium fluoride (NaF) and beryllium fluoride (BeF_2) was ascertained at appropriate temperatures. For the investigations NaF of the qualification ChDA was used and self-produced BeF_2 and Na_2BeF_4 whose preparation is described briefly. The data resulting from the analysis of the Na_2BeF_4 are compiled in table 1. The apparatus used for measuring the steam and dissociation pressure according to the flow method is - taken all in all - similar

Card 1/4

to that described in publications. The diagram is depicted in Fig 1, and is - in the following - described with sufficient precision. The steam pressure was determined according to formula $p = P \frac{n-n_1}{(n+N)-n_1}$ wherein n, N, and n_1 denote the mol values of the evaporating component (carried along by the gas streaming through), of the gas streaming through, and of the substance which is generated in the condensor in consequence of diffusion. P is the pressure of the gas (nitrogen) streaming through. The results obtained were extrapolated on the pressure $P_{extrapol}$ for the gas speed = 0. The apparatus was controlled by measuring the steam pressure of KCl (Data see Table 2). The measuring results for the steam pressure of BeF_2 are specified in table 3, whereby the dependence of lg p on 1/T was expressed by the equation $lg\ p = A-B/T$ (Fig 2). A and B were expressed on the basis of experimental data following the method of the smallest squares. (In the temperature range from

767-821° the respective figures are 13.0411 and 13762, and in the temperature range 821-1002° 9.9041 and 10268). The result is, ΔH_{subl} = 62962 cal/mol and ΔH_{steam} = 46977 cal/mol. The steam pressure of molten NaF was determined within a temperature range from 1071 to 1197°. Results are given in table 4 and in Fig 3. A and B were calculated at 8.2263 and 11029.9. In this manner the evaporating heat ΔH was found to be 50462 cal/mol. For the investigation of the pressure of dissociation of the Na_2BeF_4 several condensates were analyzed (See table 5). These analyses lead to the assumption that the dissociation takes place according to the following equation: $Na_2BeF_4 \rightleftarrows 2NaF + BeF_2$. The partial pressures for NaF and BeF_2 were determined by way of liquid Na_2BeF_4, and for the temperature range 1009-1197° the following equations were found for lg p in dependence of 1/T: For BeF_2: lg p = 8.6881- 10939/T, and for NaF: lg p =

Investigations on the Pressure of Dissociation of the Sodium Fluoroberyllate Having the Composition Na_2BeF_4 SOV/55-58-6-23/31

8744370-10633/T (Table 6 and Fig 4). Besides, the activities of the individual components and the corresponding molar percentages in the molten mass of the Na_2BeF_4 (Table 7) were determined. From the results obtained in this connection the conclusion can be drawn, that the dissociation does not proceed, as supposed, but according to the equation $Na_2BeF_4 \rightleftarrows NaF + NaBeF_3$. The dissociation heat of NaF calculated for this equation amounted to $\Delta H = 48646$ cal/mol. There are 4 figures, 7 tables, and 12 references, 5 of which are Soviet.

ASSOCIATION: Kafedra neorganicheskoy khimii (Chair for Inorganic Chemistry)

SUBMITTED: June 13, 1958

Card 4/4

NOVOSELOVA, A. V.

AUTHORS: Grigor'yev, A. I., Novoselova, A. V., Semenenko, K. N. 32-2-25/60

TITLE: Determination of the Molecular Weight of Dissolved Substances According to the Method of Diffusion Through a Porous Glass Platelet (Opredeleniye molekulyarnykh vesov rastvorennykh veshchestv metodom diffuzii cherez poristuyu steklyannuyu plastinku)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 2, pp. 190-192 (USSR)

ABSTRACT: The idea of Northrop Anson (reference 1) was applied to determine molecular weights (of the order of magnitude of 400 to 500) of substances dissoved in chloroform. The molecular weights are computed from the experimentally found diffusion coefficients of the substance under investigation and of a substance with a known molecular weight with the formula

$$\frac{D'}{D''} = \frac{\sqrt{M''}}{\sqrt{M'}}$$

Card 1/2 The oxyacetate and the oxypropionate of beryllium were in-

Determination of the Molecular Weight of Dissolved Substances 32-2-25/60
According to the Method of Diffusion Through a Porous Glass Platelet

vestigated and a difference of only 0,5% to the computed molecular weight was found. When the molecular weight of anthracene was determined, however, a difference of 19% was found, which can be due to the differences between the structures of the Be-oxyacetate and that of anthracene (corresponding to the observations made by Brintzinger, reference 3). The application of a standard as an accompanying substance is therefore proposed for the purpose of improving the method. The radioactive C^{14} isotope was, among others, used in order to remove difficulties of analytical kind. For the determination of the specific activities, the solutions within the cell and without were vaporized after diffusion, the residue was dessiccated, combusted and the $C^{x}O_2$ was transformed into $BaC^{x}O_3$. There are 1 figure, 4 tables, and 4 references, 1 of which is Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov
(Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova)

AVAILABLE: Library of Congress
Card 2/2 1. Molecular weight-Determination 2. Chloroform-Applications

AUTHORS: Breusov, O. N., Novoselova, A. V., 20-118-5-24/59
Corresponding Member of the AS USSR,
Simanov, Yu. P.

TITLE: Thermal and Roentgenophasic Analysis of the $CsF-BeF_2$ System and Its Interrelations With the Me^IF-BeF_2 Systems (Termicheskiy i rentgenofazovyy analizy sistemy $CsF-BeF_2$ i yeye vzaimootnosheniya s sistemami tipa Me^IF-BeF_2)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 935-937 (USSR)

ABSTRACT: The Me^+F-BeF_2 systems can be regarded as weakened fluoride "models" of $Me^{2+}O-SiO_2$ systems with Me^2 representing Li, Na, K and Rb (references 2-11). The first system mentioned in the title above was to be investigated from the aspect of the changes of stability of different fluoroberyllates. In this system four compounds were found: Cs_3BeF_5, Cs_2BeF_3, $CsBeF_3$ and $CsBe_2F_5$. They all could

Card 1/5

easily be produced by fusing together the component mixture in stoichiometrical proportions. The investigation of the system in the 0 - 33 % BeF_2 range is rendered difficult by the extreme hygroscopic properties and other disturbances. Thus a part of the diagram (figure 1) is only based on the cooling curves. The other part is based on the heating curves. For CsF the the melting point was determined to 688°C (similar to reference 13). With 14% BeF_2 and at 598°C Csf formed a eutectic with Cs_3BeF_5. This melts incongruently at 659°C. At 617°C this compound suffers a polymorphous transformation. For Cs_2BeF_4 the melting point was determined to 793°C.
Its polymorphous transformation took place at 404°C. $CsBeF_3$ melts congruently at 475° C and shows two polymorphous transformations. The eutectic of Cs_2BeF_4 + $CsBeF_3$ is at 449°C and with 48% BeF_2. $CsBe_2F_5$ shows its polymorphous transformation at 450°C, melts congruently at 480°C and

forms eutectics with $CsBeF_3$ and BeF_2. The great similarity between the phase diagrams of the $CsF-BeF_2$ system and of the $CsF-ZnF_2$ system is striking (reference 14). The individuality of the ceasium-fluoreberyllates was confirmed by roentgenophasic analysis. It was found that the quartzous BeF_2 exists only up to 580°C and melts at higher temperatures. The cristobalite-like form occured only up to 535°C and slowly changed into the quartzons form (from 150°C up). It could not be determined, whether the disappearance of the cristobalite-like form of BeF_2 above this temperature is caused by its melting. The polymorphous transformations of $CsBe_2F_5$ and $CsBeF_3$ were confirmed by X-ray analysis at high temperatures. Moreover the absence of polymorphism with CsF up to 400°C was proved. For Cs_2BeF_4 and $CsBeF_3$ the values of the axis parameters of the lattice were determined, which proved to be rhomboid. The pycnometrical density was measured. With regard to the axes Cs_2BeF_4 is a better crystallochemical analog of B_2SiO_4

than Rb_2BeF_4 (reference 11) in spite of the difference of the radii. Figure 2 shows the dependence of the destruction temperatures of the crystalline lattices of the fluoreberyllates (congruent melting, incongruent melting, decomposition in solid state) on the cationic radii. The diagram shows that the compounds of the $Me^I_2BeF_4$ are most stable. This stability is increased from Li to Rb, and is decreased insignificantly from Rb to Cs. For $MeBe_2F_5$ compounds there is hardly any change of the decomposition temperature from Li to K. Compounds of this Rb and Cs combination are considerably more stable and melt congruently. There are 2 figures, 1 table, and 15 references 7 of which are Slavic

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. N. V. Lomonosova (State University imeni M. V. Lomonosov, Moscow)

SUBMITTED: October 8, 1957

SOV/20-122-3-20/57

AUTHORS: Grigor'yev, A. I., Corresponding Member, Academy of Sciences, USSR, Novoselova, A. V., Semenenko, K. N.

TITLE: Compounds of Beryllium Hydroxy Acetate With Sulfur Dioxide (Soyedineniya oksiatsetata berilliya s sernistym angidridom)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 3, pp 397-399 (USSR)

ABSTRACT: Affiliation products containing mainly amino nitrogen are described for beryllium hydroxy acetate (Refs 1-3). These compounds are stable enough and are probably formed at the expense of the free electron pair of nitrogen. However, for the substance mentioned first in the title compounds of a weaker binding may be expected, namely of the type of the so-called "inclusion compounds" (soyedineniya vklyucheniya Pl.) (Refs 4,5). The compound mentioned in the title probably is such an "inclusion compound" (Ref 2). This problem is discussed in detail in the present paper. In the concentration by the evaporation of a solution of beryllium hydroxy acetate in liquid sulfur dioxide the latter compound is precipitated in form of well developed octahedrons. The thus forming compound

Card 1/4

Compounds of Beryllium Hydroxy Acetate With Sulfur Dioxide

is extremely instable at room temperature and decomposes into its two initial products. This makes difficult the determination of its composition and the preparative isolation by means of the usual methods of chemical analysis. In order to investigate the interaction of both substances mentioned in the title the authors studied the method of the construction of diagrams at a constant temperature: composition - vapor pressure in the system formed by them. For this purpose they used the Huettig tensiometer (tenzievdiometr) (Ref 6). The working process is described. The equilibrium could be observed after 10-20 hours. Figure 1 shows the isothermal lines of the composition versus pressure function for -9,5, -15, -20 and -30°. From the general view of the isothermal lines it can be seen that in the case of a concentration by evaporation of one of the mentioned saturated solutions a compound $Be_4O(CH_3COO)_6 \cdot 2SO_2$ is precipitated. Thus, it was observed that the compound $3Be_4O(CH_3COO)_6 \cdot 4SO_2$ (described by the authors in reference 2) represents a product of a partial decomposition of the compound of beryllium hydroxy acetate with molecules of sulfur dioxide. Besides a compound 2 : 1 another one 1 : 1 $Be_4O.(CH_3COO)_6 \cdot SO_2$ which forms on the